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An Assessment of the Supplies of Natural Gas and Fuels for Generating Electricity in Ohio

November, 1982 - October, 1983

PRESENTED TO
GOVERNOR JAMES A. RHODES,
THE OHIO GENERAL ASSEMBLY, AND
THE PUBLIC UTILITIES COMMISSION OF OHIO

DECEMBER 15, 1982
THE OHIO DEPARTMENT OF ENERGY
FRANK A. HILDEBRAND, DIRECTOR

James A. Rhodes
GOVERNOR

OHIO DEPARTMENT OF ENERGY
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Frank A. Hildebrand
DIRECTOR

December 14, 1982

The Honorable James A. Rhodes
Governor
Statehouse
Columbus, Ohio 43215

Dear Governor Rhodes:

Pursuant to ORC 4905:14, each public electric and gas utility in Ohio is required to file with the Ohio Department of Energy a report on July 1 and November 1, containing projections of the utilities' total demand and fuel supply over the following twelve months. As required by the same statute, we sent to you on November 10, 1982, copies of the utilities' reports.

The attached report is a summary and analysis of these reports as required by 4905:14. It includes an evaluation of the Ohio gas and electric situation for the coming winter and the next twelve months. It appears at this time that fuel supplies will be adequate even under 10% colder than normal weather conditions. We will provide you with an update if for any reason adequacy conditions change.

Because of the growing number of persons who are using kerosene space heaters, it is important this heating season that consumers be informed of the proper use of fuel in such heaters. Only #1-K kerosene should be burned in unvented space heaters. The combustion of other fuels in this manner constitutes a serious fire hazard. Consumers should also avoid burning #2-K kerosene in unvented heaters because of high sulfur emissions and an accumulation of gum on the heater wick. Our spot survey of prime suppliers, jobbers and the Ohio Petroleum Marketers Association indicates that there will be adequate supplies of #1-K kerosene for the heating season. The Department would be pleased to provide additional information on dangers associated with kerosene space heating.

Sincerely,

Frank A. Hildebrand

Frank A. Hildebrand
Director

FAH/ot
cc: James R. Tilling, Senate Clerk
Thomas Winters, Clerk of the House
Jon F. Kelly, PUCO Chairman

An Assessment of the Supplies of Natural Gas and Fuels for Generating Electricity in Ohio from November 1982 - October 1983

Table of Contents

List of Tables ii

List of Figures iii

Executive Summary 1
  Electricity 1
  Natural Gas 2

Introduction 3
  Objectives 3
  Requirements and Scope of This Report 4
  Overview of This Report 5
  Temperature and Energy Consumption 5

Electricity 9
  Supply and Generation 10
    Source/Supplier of Fuel for Electric Generation 10
    Electric Generation by Type of Fuel 10
  Historical Behavior of Sectoral Requirements 11
  Twelve-Month Electricity Demand Forecasts 12
    Electric Demand Forecasts by Utility Service Area 12
  Assessment of Utility Fuel Adequacy 13
    Coal 13
    Oil 14

Natural Gas 36
  Distribution and Supply 36
  Historical Behavior of Sectoral Requirements 38
  Utility Forecasts: Twelve-Month Outlook 38
  ODOE Independent Forecast 39
    Methodology 39
    Results and Outlook 40
  Alternative Fuel Use Capability Profile 41

Appendices 73
  Appendix A: Electricity 74
  Appendix B: Natural Gas 87

List of Tables

1. Population-Weighted State Heating Degree-Day Summary for Ohio 7
2. Source of Coal Supplies to Electric Utilities (Ohio Portion) 16
3. Major Oil Suppliers to Electric Utilities (Ohio Portion) 17
4. Major Ohio Utilities - Net Generation by Type of Fuel (Ohio Portion) 18
5. Major Ohio Electric Utilities Fuel Consumption and Stocks (Ohio Portion) 19
6. Ohio Electricity Consumption 20
7-A. Ohio Electric Utilities' Projected Deliveries, Consumption, and Stocks of Coal for Electricity Generation 21
7-B. Ohio Electric Utilities' Projected Deliveries, Consumption, and Stocks of Oil for Electricity Consumption 22
7-C. Electric Utilities' Demand Forecast, Fuel Assessment, and Inventory Model 23
8. Total Natural Gas Requirements of All Commercial Utilities in Ohio 42
9. Sources of Natural Gas Supplies to the Eight Major Gas Utilities 43
10. Comparison Between One Year of Actual and Forecast Supply for Eight Major Ohio Gas Utilities by Source 39
11. Weather Sensitivity of Residential Gas Consumption in Ohio 45
12. Ohio Natural Gas Prices in Current Dollars, 1970-1980 46
13. Ohio Natural Gas Prices in Constant Dollars, 1970-1980 47
14. Integrated Time Path Models of Ohio Sectoral Natural Gas Requirements 49
14-A. (Statistical Summary) Integrated Time Path Models of Ohio Sectoral Natural Gas Requirements 50
15. Independent Forecast of Annual Natural Gas End Use Requirements, Calendar Year 1983 51
16. Projected Aggregate Supply and Requirements for Natural Gas for Eight Major Gas Utilities 52
17. Comparison Between One Year of Actual and Forecast Demand for Eight Major Ohio Gas Utilities by Sector 53
18. Independent Forecasts of Natural Gas Supply and Demand for the Eight Major Ohio Gas Utilities 54
19. Independent Forecasts of Gas Supply and Demand for Cincinnati Gas and Electric Company 55
20. Independent Forecasts of Gas Supply and Demand for Columbia Gas of Ohio 56
21. Independent Forecasts of Gas Supply and Demand for Dayton Power and Light Company 57
22. Independent Forecasts of Gas Supply and Demand for East Ohio Gas Company 58

List of Figures

1. Population-Weighted State Degree-Days for Ohio 8
2. Monthly Coal Deliveries to Power Plants in Ohio 27
3. Monthly Oil Deliveries to Power Plants in Ohio 28
4. Major Ohio Electric Utilities Net Generation by Type of Fuel, Ohio Portion 29
5-A. Comparison of Ohio Electricity Consumption by Sector 30
5-B. Ohio Total Electricity Consumption 31
6. Monthly Ohio Residential Electricity Consumption, Actual and Projected 32
7. Monthly Ohio Commercial Electricity Consumption, Actual and Projected 33
8. Monthly Ohio Industrial Electricity Consumption, Actual and Projected 34
9. Total Monthly Electricity Consumption, Actual and Projected 35
10. Source of Natural Gas Supply to the Eight Major Ohio Gas Utilities 59
11. Monthly Ohio Residential Natural Gas Consumption 60
12. Monthly Ohio Commercial Natural Gas Consumption 61
13. Monthly Ohio Industrial Natural Gas Consumption 62
14. Monthly Ohio Total Natural Gas Consumption 63
15. Ohio Total Natural Gas Consumption 64
16. Ohio Residential Natural Gas Consumption 65
17. Ohio Commercial Natural Gas Consumption 66
18. Ohio Industrial Natural Gas Consumption 67
19. Ohio Transportation Natural Gas Consumption 68
20. Ohio Electric Utility Natural Gas Consumption 69
21. Ohio Natural Gas Consumption by Sector 70
22. Projected Supply and Requirements of Natural Gas, Eight Major Companies 71
23. Projected Gas Requirements for Ohio by Sector for Eight Major Companies 72

EXECUTIVE SUMMARY

Twice each year, on July 1 and November 1, the regulated natural gas and electric utilities are required to submit forecasts of fuel supply and demand for the ensuing twelve month period to the Ohio Department of Energy under the provisions of Section 4905 of the Ohio Revised Code. The statute further requires that ODOE review each forecast and compare it with the Department's own independent forecast. The final report by the Department is then forwarded to the Governor, the Ohio General Assembly, and the Public Utilities Commission of Ohio to advise them of the adequacy of fuel supplies for the coming year, or to identify possible shortages and proposed actions to accommodate or eliminate such shortfall in fuel supply.

We are pleased to report that there is an adequate supply of natural gas and fuels for generation of electricity in Ohio for the coming year, barring any unforeseen circumstance or calamity.

ELECTRICITY

For the twelve month period ending September 1982, consumption of electricity in Ohio was 6.9 percent lower than during the previous twelve month period. Residential sector demand remained steady, commercial sector demand increased 1.5 percent, and industrial sector demand declined by 15.6 percent. The Ohio Department of Energy's independent statewide forecast for that period called for a 4.0 percent reduction in demand. The difference between ODOE projections and actual consumption are well within the limits considered acceptable by forecasting professionals and industry standards.

The individual forecasts prepared by the utilities for the coming year project a higher level of demand than does the forecast for each utility prepared by ODOE. The apparent reason for their higher projection is an assessment of a rapid economic recovery which will affect the industrial demand. Their forecasts indicate a belief that the recovery will begin early in 1983 while the Department's projection reflects a slower and more lengthy recovery in industrial activity.

NATURAL GAS

Natural gas requirements for Ohio are forecast to continue to fall as they have each year since 1972. The major contributors to this declining demand are rising prices and conservation efforts, with industrial slowdown adding to the cause in the past two years.

The utilities' twelve month forecasts indicate no shortfall in supply through the current heating season, even in the event of a colder-than-normal winter.

The Department's independent forecast indicates that, in a winter 10 percent colder than normal, a possible 8.4 percent shortage of new gas supplies could occur, however this requirement could easily be met by gas currently held in storage within the state. Also, it is believed by the Department that additional supplies of new gas over and above existing contracts will be available if needed.

Based on historical patterns,the supply of natural gas for all consuming sectors in the state will be adequate throughout the forecast period.

INTRODUCTION

This report has been prepared by the Ohio Department of Energy pursuant to Section 4905.14(E) of the Ohio Revised Code. The statute requires the Department of Energy to provide a summary, analysis and recommendations based on the Ohio public utilities' energy supply and demand projections for the twelve-month period beginning November 1, 1982. In accordance with Section 4905.14(D), a copy of each utility's November forecast was submitted to the Governor, Clerk of the Senate, the Legislative Clerk of the House of Representatives, and the Public Utilities Commission of Ohio on November 10, 1982. The utilities' forecasts and historical data are the primary input for this report. Several other sources of information have also been used, including historical energy data developed by the Ohio Department of Energy, federal energy reports, and publications from the American Gas Association and the Electric Power Research Institute. A substantial and successful effort has been undertaken to develop a comprehensive data base which supports our ability to provide timely analyses and forecasts.

Objectives

In the preparation of this report, the Ohio Department of Energy set forth the following major objectives:

1. To provide an adequate historical, energy-related data profile for identification of current status and future trends;
2. To provide analysis and interpretation of short-term changes in energy supply and demand;

3. To provide an assessment of the adequacy of natural gas and electric energy supply for the upcoming twelve months; and
4. If a potential deficiency between supply and demand is identified, to suggest a strategy to prevent or mitigate any interruption or curtailment of service.

The information evaluated is supplied in part by reports filed with the Ohio Department of Energy and the federal government, and is augmented by the research and analysis of the Ohio Department of Energy.

Requirements and Scope of this Report

The utilities are required to file short-term forecast information under Section 4905.14 Ohio Revised Code, effective November 1, 1978. The department prepares a summary and analysis of this information under paragraph (E) of this section.

The municipal utilities, industrial facilities and the rural electric cooperatives are not required to file the semi-annual report. This report incorporates data from the major electric and gas utilities serving the state. ODOE estimates that the major utilities provide approximately 95 percent of the electricity consumed in the state and 98 percent of the natural gas, excluding self-help gas.

Ohio Department of Energy Forecasts

As part of its analysis, the Ohio Department of Energy makes its own independent forecasts to serve as validation checks. The Ohio Department of Energy has the capability to forecast monthly demand by utility and for the state as a whole within a reasonable level of error (less than 5 percent in most cases). Such forecasts are based on historical month-by-month actual consumption for both electricity and natural gas and other appropriate variables such as population, income, and temperature data. As in any forecast, certain important socioeconomic conditions are assumed in the Ohio Department of Energy forecasts. These assumptions are stated below:

1. Energy demand generally follows its historical consumption pattern.
2. Socioeconomic changes are minimal in affecting demand for energy in the short run.
3. The observed level of conservation will remain in effect.
4. Other specific assumptions are stated where appropriate.

Overview of this Report

The report is divided into two parts: electric energy and natural gas. Materials contained in these two parts are, for the most part, parallel in arrangement. They contain: (a) a profile of reporting utilities; (b) historic sources of supplies/suppliers; (c) consumption history by sector, utility, and state; and (d) the utilities' forecasts and independent forecasts by the Ohio Department of Energy. For the purpose of better illustration, the data are frequently displayed graphically.

Temperature and Energy Consumption

Changes in the observed annual energy requirements of the three major consuming sectors may be explained by a variety of factors. Temperature is a variable which explains much of the observed variation. It is particularly significant in the residential and commercial sectors where, during summer and winter periods, the requirements for electricity and natural gas are used to maintain comfortable room temperatures.

Two indicators which measure temperature-sensitive energy requirements are heating degree days and cooling degree days. The daily mean temperature is obtained by adding together the maximum and minimum temperatures reported for the day and dividing the total by two. When the daily mean temperature is 65° F., the degree day is zero. Each degree of mean temperature below 65° F. is counted as one heating degree day. This indicator is convenient because the amount of heat required to maintain a certain temperature level is proportional to heating degree days.

The cooling degree days are defined similarly: each degree of mean temperature above 65° F. is counted as one cooling degree day. If the daily mean temperature is 65° F. or lower, the cooling degree day total is zero.

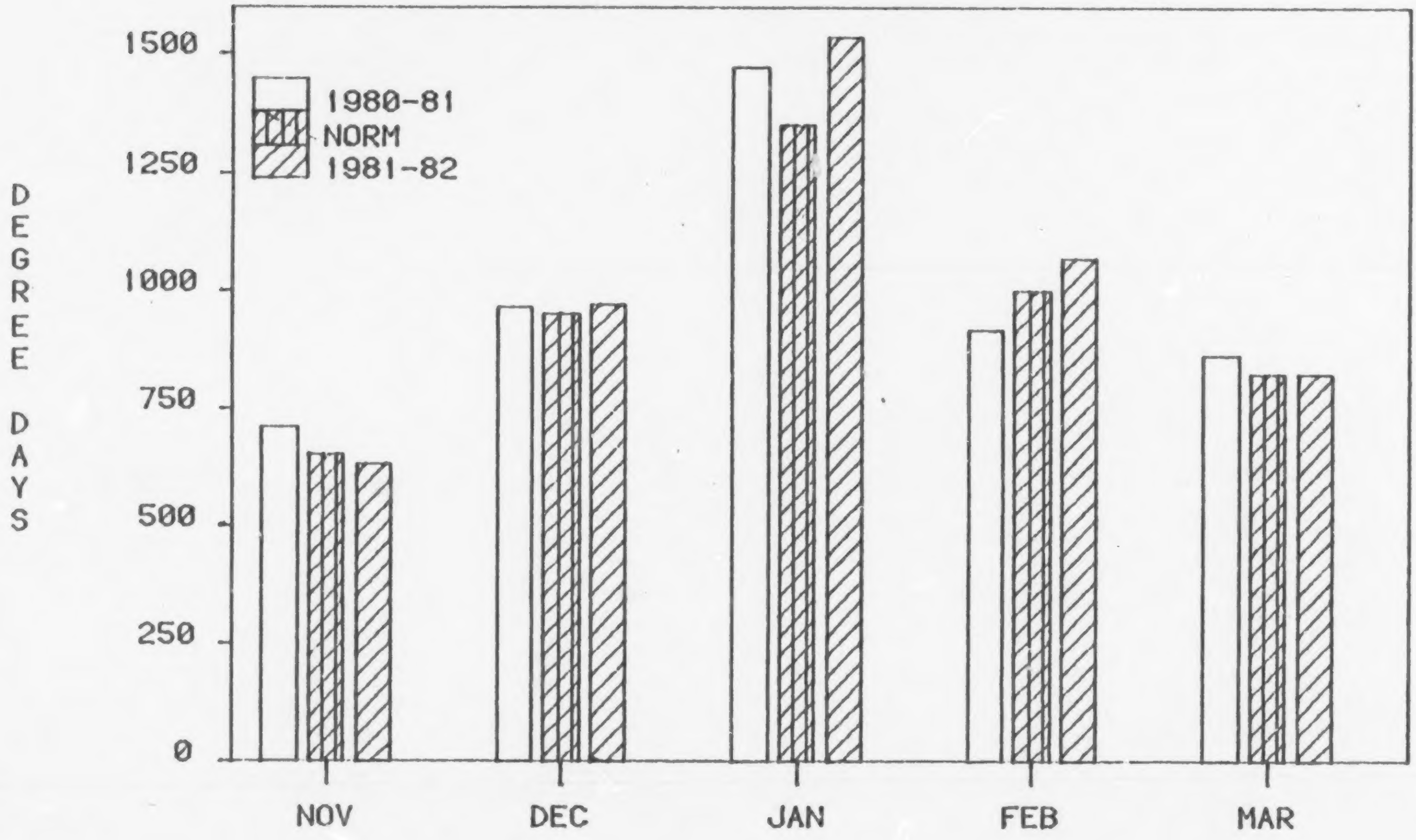
Since most homes and commercial buildings in Ohio are heated by natural gas, the reporting gas utilities are required to submit supply and demand forecasts under a normal winter scenario and a ten percent colder than normal winter scenario. In addition, the relationship between natural gas consumption and heating degree days is closely monitored by ODOE during the winter heating season (from November through March). Table 1 and Figure 1 show, for the past two heating seasons, population-weighted state heating degree day summaries. In addition, a normal heating degree day series, defined as the 30 year average of the years 1941 to 1970, is presented.

Table 1. Population-Weighted State Degree-Day Summary for Ohio, November 1, 1981 to March 31, 1982

	1981-1982			Norm			1980-1981		
Week Ending Date	Weekly	Cumulative for Month	Cumulative from November 1	Weekly	Cumulative for Month	Cumulative from November 1	Weekly	Cumulative for Month	Cumulative from November 1
November 8	92	92	92	132	132	132	126	126	126
15	168	260	260	153	285	285	155	281	281
22	176	436	436	174	459	459	221	502	502
29	196	632	632	195	654	654	207	709	709
Deviation from Norm		-3.4%	-3.4%					8.4%	8.4%
December 6	196	196	828	216	216	870	177	177	886
13	238	434	1066	233	449	1103	182	359	1068
20	300	734	1366	245	694	1348	282	641	1350
27	237	971	1603	254	948	1602	325	966	1675
Deviation from Norm		2.4%	0.0%					1.9%	4.6%
January 3	242	242	1845	259	259	1861	273	273	1948
10	306	548	2151	261	520	2122	389	662	2337
17	399	947	2550	262	782	2384	335	997	2672
24	303	1250	2853	261	1043	2645	244	1241	2916
31	285	1535	3138	307	1350	2952	232	1473	3148
Deviation from Norm		13.7%	6.3%					9.1%	6.6%
February 7	302	302	3440	259	259	3211	314	314	3462
14	330	632	3770	255	514	3466	293	607	3755
21	188	820	3958	247	761	3713	138	745	3893
28	246	1066	4204	236	997	3949	172	917	4065
Deviation from Norm		6.9%	6.5%					8.0%	2.9%
March 7	250	250	4454	221	221	4170	234	234	4299
14	NA	NA	NA	NA	NA	NA	NA	NA	NA
21	NA	NA	NA	NA	NA	NA	NA	NA	NA
28	NA	NA	NA	NA	NA	NA	NA	NA	NA
31	NA	824	5028	NA	822	4771	NA	861	4926
Deviation from Norm		0.2%	5.4%					4.7%	3.2%

Source: National Weather Service and the Ohio Department of Energy.

FIGURE 1. POPULATION-WEIGHTED STATE DEGREE-DAYS FOR OHIO WINTER HEATING SEASONS 1980-1982



SOURCE: OHIO DEPARTMENT OF ENERGY.

ELECTRICITY

This section is based on the November forecasts filed by nine major Ohio electric utilities. Two of these, Columbus and Southern Ohio Electric Company and Ohio Power Company, are subsidiaries of the American Electric Power Company. Since American Electric Power operates as a centrally dispatched, integrated distribution system, the report reviews forecasts of demand and fuel adequacy for the entire American Electric Power System. The Allegheny Power System is also a centralized power generation and distribution system, of which one subsidiary is Monongahela Power. Thus, the forecasts of eight utilities are presented in the report. They are:

1. Allegheny Power System (APS)
    - Monongahela Power
    - Other out-of-state utilities not subject to reporting.
2. American Electric Power Company (AEP)
    - Columbus and Southern Electric Company (C&SOE)
    - Ohio Power Company
    - Other out-of-state utilities not subject to reporting.
3. Cincinnati Gas and Electric Company (CG&E)
4. Cleveland Electric Illuminating Company (CEI)
5. Dayton Power and Light Company (DP&L)
6. Ohio Edison Company (and its subsidiary Pennsylvania Power)
7. Ohio Valley Electric Corporation (OVEC)
8. Toledo Edison Company

With the exception of OVEC, each of these is an investor-owned utility supplying electricity to residential, commercial, and industrial customers in its service areas. The Ohio Valley Electric Corporation is a single-customer utility supplying power for the uranium enrichment plant at Portsmouth, Ohio. It also sells surplus generation to other electric utilities.

Supply and Generation

Source/Supplier of Fuel for Electric Generation

Fuels used in Ohio for electric generation include coal, oil, natural gas and nuclear fuel. At this time, nuclear fuel sources are not monitored by ODOE. All other fuels are monitored through the utilities' monthly reports. Tables 2 and 3 list coal and oil deliveries to power plants located in Ohio. The main sources of supply and/or suppliers of these fuels remain the same as in the last reporting period.

Coal deliveries to Ohio electric plants during the twelve months ending August 1982 increased 10.6 percent from the previous twelve-month period, during which time the coal miner's strike hampered deliveries (see Figure 2). Deliveries of oil to Ohio power plants declined 28.1 percent during the twelve months ending August 1982 from the previous twelve month period. Oil deliveries have declined steadily since 1980, as has the generation of electricity from fuel oil (see Table 4 and Figure 4).

Electric Generation by Type of Fuel

Coal is the main source of fuel for electric generation in Ohio, and its position is not expected to change in the foreseeable future. In the twelve-months ended August 1982, 97.0 percent of total electricity generated in Ohio was from coal. Electricity generated by oil continued to decline to a negligible 0.10 percent of total generation. Nuclear generated electricity accounted for 2.8 percent of electricity generated in the state in the twelve months ending August 1982. From April through August 1982, Davis-Besse was shut down for maintenance. It began generating electricity in September 1982 and is scheduled to remain on line until September 1983.

Table 4 and Figure 4 show the combined monthly totals of the reporting utilities' net generation from Ohio plants. Historical power plant fuel consumption and fuel stocks are displayed in Table 5. The build-up and subsequent decline in coal stocks from mid-1980 through May 1981 was occasioned by a coal strike settled in June 1981.

Historical Behavior of Sectoral Requirements

Since the 1973 OPEC oil embargo and with the escalation of energy prices, the pattern of electricity consumption in Ohio has changed dramatically. Increasing prices have stimulated conservation activities and fostered economic conditions that have resulted in reduced growth rates in the demand for electricity. For the twelve-month period ending in September 1982, total electricity consumption in the state was 6.9 percent lower than during the preceding twelve-month period (see Table 6 and Figure 5). Residential sector demand remained steady, commercial sector demand increased 1.5 percent and industrial sector demand declined 15.6 percent.

Electric consumption by the residential and commercial sectors exhibits strong seasonal patterns while the industrial sector fluctuates widely with general economic conditions. In July 1982, industrial electricity consumption dipped to its lowest point in the data series maintained by ODOE, which begins in January 1971. A severe downturn in the manufacturing sector, particularly in automobile-related industriess, has resulted in a current monthly industrial demand level of 3100 to 3400 megawatt-hours. This is a significant decrease from the monthly industrial demand level of 3900 megawatt-hours observed in our August report.

Twelve-Month Electricity Demand Forecasts

Each electric utility submits its forecast of total service area demand for November 1982 through October 1983. These forecasts are displayed in Appendix Tables A-1 through A-8, along with independent forecasts prepared by ODOE. The Ohio Department of Energy also prepares independent twelve-month forecasts of electricity demand for the state of Ohio, by sector. These forecasts are displayed in Appendix Tables A-9 through A-12.

Electric Demand Forecasts by Utility Service Area

For each utility service area, two electric demand forecasts are provided. One of the forecasts is a reporting utility forecast and the other is provided by the Ohio Department of Energy (Appendix A, Tables A-1 through A-8).

The Ohio Department of Energy forecasts are based on monthly data from the utility reports from January 1970 through August 1982. No independent forecast is provided for OVEC, because this utility has only one customer whose demand is preplanned.

Because of the overlapping months for utility forecasts submitted on July 1 and November 1, the utilities may elect to use their previous forecasts for those overlapping months in the new forecasting period. Dayton

Power and Light, Ohio Edison, and the Ohio Valley Electric Corporation, retained the forecasts submitted in July for November 1982 through June 1983. The Allegheny Power System adjusted its forecast of demand for those eight months downward by 6.5 percent. American Electric Power forecasts for the eight month period are adjusted downward by 6.3 percent; Cincinnati Gas and Electric by 5.9 percent; Cleveland Electric Illuminating by 4.6 percent; and Toledo Edison by 0.7 percent.

Utility forecasts of monthly demand for November 1982 through October 1983 are in every case higher than those prepared by the Ohio Department of Energy. This reflects the utilities' expectations of a rapid economic recovery.

Assessment of Utility Fuel Adequacy

Adequacy of utility supplies of fuel for the generation of electricity is dependent upon the demand for electricity. Since the forecasts of the utilities foresee greater demand over the twelve-month forecast period than do the ODOE forecasts, utility demand projections are employed to assess fuel adequacy. This insures a greater margin of error in the assessment of fuel adequacy.

Coal

Table 7-A presents projected deliveries, consumption, and end-of-month stocks of coal, as submitted by electric utilities to ODOE. Independent projections of end-of-month stocks and number of days' supply of coal are presented in Table 7-C.

To derive the ODOE projections, average daily requirements of coal were determined by dividing projected monthly coal consumption by the number of days in the month. End-of-month stocks were derived by considering consecutively end of October 1982 stocks, projected monthly coal delivery schedules as submitted by the utilities, and projected monthly coal consumption levels. Number of days' supply of coal was estimated on the basis of average daily requirements in subsequent months and the level of end-of-month stocks for the month in question.

Coal consumption projections were made through the use of a formula which adjusts coal consumption levels for changes in the consumption of oil, natural gas, and nuclear fuel in a manner that is consistent with the projected demand or net energy for load. In making these projections it is assumed that the following conditions will be satisfied:

1. Monthly demand (net energy for load) for November 1982 through October 1983 will be realized in the manner projected by the utility companies.
2. Energy required to supply projected net energy for load in a given month from November 1982 through October 1983 will be proportional to the energy consumed in supplying the actual net energy for load in the previous twelve-month period.
3. Monthly delivery schedules for all fuels in 1982 and 1983 will be met in the manner projected by the utility companies.

In every case but that of Ohio Edison, stocks and number of days' supply of coal are adequate under normal conditions. ODOE will closely monitor Ohio Edison coal stocks and generation plans through the forecast period.

Oil

Table 7-B presents projected deliveries, consumption, and end-of-month stocks of oil, as submitted by electric utilities to ODOE. It has been noted previously that generation of electricity by oil has decreased markedly in recent years.

Table 7-C presents ODOE projections of end-of-month stocks of oil. Negative values for end-of-month stocks of oil are misleading, in light of the continuing decline in the amount of electricity generated by oil that is anticipated this year. However, ODOE will closely monitor the monthly oil stocks of American Electric Power and Dayton Power and Light through the forecast period to investigate their adequacy.

Table 2. Source of Coal Supply to Electric Utilities
(Ohio Portion)
(In Thousand Short Tons)

	Coal Districts								
Month	1	2	3	4	6	7&8	9	Other	Total
1980									
January	----	210.9	27.0	2,202.8	327.2	1,140.8	131.5	316.8	4,357.0
February	----	136.3	46.9	1,872.3	500.9	964.9	100.1	216.8	3,838.2
March	----	200.4	34.8	2,114.1	126.9	1,485.5	94.6	356.6	4,412.9
April	----	254.1	44.7	2,096.0	215.9	1,216.8	66.1	200.8	4,094.4
May	0.1	165.1	49.0	2,225.2	270.1	1,252.5	125.4	167.8	4,255.2
June	----	158.4	56.5	2,111.3	291.9	1,501.7	159.0	165.4	4,444.2
July	----	151.3	47.1	1,932.9	173.1	892.3	72.8	201.3	3,470.8
August	----	182.6	78.8	2,164.6	261.6	1,295.8	115.1	242.1	4,340.6
September	----	217.5	78.7	2,124.4	275.2	1,286.4	81.5	118.3	4,182.0
October	----	202.1	95.1	2,164.6	265.1	1,388.9	103.4	56.1	4,275.3
November	----	161.5	107.6	1,958.0	261.1	1,094.6	38.8	155.8	3,777.4
December	----	212.4	103.7	2,070.7	233.1	1,130.3	73.3	251.9	4,075.4
Total	0.1	2,252.6	769.9	25,036.9	3,202.1	14,650.5	1,161.6	2,449.4	49,523.4
% of Total	0.0	4.5	1.6	50.6	6.5	29.6	2.3	4.9	
1981									
January	----	137.9	82.7	2,241.6	270.6	1,269.2	106.7	319.4	4,428.1
February	----	178.5	91.2	2,063.3	242.3	1,120.4	37.7	196.4	3,929.8
March	----	193.2	137.2	2,333.0	125.5	1,304.2	19.1	332.3	4,444.5
April	----	98.8	41.7	372.4	20.0	664.4	14.4	51.4	1,263.1
May	----	75.9	4.4	422.7	-----	753.8	1.5	-----	1,258.3
June	----	75.3	9.1	1,576.2	190.2	1,137.3	23.9	-----	3,012.0
July	----	157.6	63.6	2,247.1	242.7	874.4	42.4	238.6	3,866.4
August	----	174.5	76.0	2,351.3	361.9	1,191.5	49.9	376.7	4,581.8
September	----	171.6	30.8	2,386.8	296.3	985.4	124.7	289.0	4,284.6
October	----	201.0	21.6	2,648.6	346.2	1,161.1	71.3	276.4	4,726.2
November	----	170.5	12.1	2,504.1	307.9	1,101.0	91.4	241.1	4,428.1
December	10.9	135.5	28.1	2,309.2	120.0	835.9	215.3	483.3	4,138.3
Total	10.9	1,770.3	598.5	23,456.3	2,523.7	12,398.6	798.3	2,804.6	44,361.2
% of Total	0.0	4.0	2.0	52.9	5.7	28.0	1.8	6.3	
1982									
January	----	128.4	23.9	2,019.3	222.7	1,089.9	103.7	198.7	3,788.1
February	----	123.0	19.4	2,137.4	388.2	1,163.9	51.2	191.7	4,074.8
March	----	173.4	27.9	2,303.4	382.9	1,489.6	56.7	237.9	4,671.8
April	----	136.9	37.3	2,031.0	237.3	1,457.9	109.8	168.8	4,179.0
May	----	109.5	40.3	1,554.9	200.8	1,058.5	28.6	150.8	3,143.4
June	0.7	121.7	31.0	1,976.6	170.0	1,090.1	97.3	134.0	3,621.4
July	----	139.0	12.5	1,537.3	126.3	590.8	76.4	131.8	2,614.1
August	----	134.7	4.3	1,998.6	317.3	1,299.2	79.6	178.7	4,012.4

District

1. Eastern Pennsylvania
2. Western Pennsylvania
3. Northern West Virginia
4. Ohio
6. Panhandle in West Virginia
7. Southern No. 1 (in West Virginia and Virginia)
8. Southern No. 2 (in West Virginia, Virginia and Eastern Kentucky)
9. Western Kentucky

Other - Primarily from Wyoming and Utah

(For details, see Keystone Coal Industry Manual, 1981 by McGraw-Hill.)

Source: Ohio Electric Utilities' FPC Form 423 and the Ohio Department of Energy.

Table 3. Major Oil Suppliers to Electric Utilities
(Ohio Portion)
(Thousand Barrels)

1980	Allied	Marathon	McCarthy	Standard	Union	Other	Total
January	105.0	0.2	---	49.9	4.2	14.9	174.2
February	214.0	0.2	---	44.4	4.2	----	262.8
March	73.9	0.4	---	49.9	3.3	0.1	127.6
April	77.4	0.2	---	14.0	4.7	0.7	97.0
May	40.0	0.2	---	5.1	4.5	1.1	50.9
June	40.5	---	---	35.1	4.7	1.0	81.3
July	71.8	---	---	34.4	4.4	1.2	111.8
August	111.2	42.9	---	45.4	3.5	15.5	218.5
September	39.5	3.8	---	6.4	3.8	0.4	53.9
October	60.0	2.2	---	9.4	4.9	1.7	79.1
November	173.6	0.4	---	21.6	2.3	46.4	244.3
December	94.6	0.6	---	3.4	2.3	10.1	111.0
Total	1,102.4	51.1	---	319.0	46.8	92.2	1,612.4
% of Total	68.4	3.2		19.8	2.9	5.7	
1981							
January	32.6	1.0	---	0.7	3.6	16.0	53.9
February	141.8	---	---	4.0	2.6	15.6	164.0
March	93.8	0.2	---	4.5	4.9	17.9	121.3
April	36.4	0.2	---	4.4	1.8	2.3	45.1
May	28.5	0.2	---	3.4	2.5	0.7	35.3
June	53.4	---	---	4.7	2.6	1.1	61.8
July	31.8	0.2	---	5.3	2.4	0.8	40.5
August	22.0	---	---	3.9	---	0.2	26.1
September	16.5	---	---	3.4	1.7	1.0	22.6
October	15.8	---	---	4.7	2.2	1.7	24.4
November	20.0	0.1	---	5.0	1.7	0.1	26.9
December	16.0	0.5	---	4.3	2.2	---	23.0
Total	508.6	2.4	0.0	48.3	28.2	57.4	644.9
% of Total	78.9	0.4	0.0	7.5	4.4	8.9	
1982							
January	35.9	0.5	---	2.8	1.8	---	41.0
February	25.5	0.2	---	2.3	2.9	---	30.9
March	21.8	0.2	---	3.4	1.5	---	26.9
April	62.5	---	---	1.8	0.9	---	65.2
May	26.8	---	---	2.3	2.2	---	31.3
June	50.6	---	---	6.5	1.8	---	58.9
July	35.7	0.2	---	7.9	2.3	---	46.1
August	140.2	---	---	204.6	2.8	---	347.6

Source: Ohio Electric Utilities' FPC Form 423 and the Ohio Department of Energy.

Table 4. Major Ohio Utilities - Net Generation by Type of Fuel (Ohio Portion) (Thousand MWH)

	Coal		Oil		Gas		Nuclear		Total
1980									
January	9,863		92		14		501		10,472
February	8,865		94		13		480		9,453
March	9,192		81		14		419		9,706
April	8,204		11		5		99		8,320
May	7,565		27		8		0		7,600
June	8,112		27		10		0		8,149
July	9,289		67		10		0		9,366
August	9,342		101		41		0		9,484
September	8,781		36		3		0		8,820
October	8,516		29		5		0		8,549
November	8,248		86		36		316		8,687
December	10,230		51		78		304		10,593
Total	106,207	97.3%	702	0.6%	237	0.2%	2,119	1.9%	109,199
1981									
January	10,864		38		8		58		10,968
February	9,032		23		7		513		9,576
March	9,876		31		13		451		10,371
April	7,646		3		2		160		7,810
May	8,547		19		10		477		9,054
June	8,555		18		11		363		8,947
July	8,711		17		12		200		8,941
August	9,186		5		1		313		9,505
September	7,596		4		2		607		8,209
October	8,050		4		1		548		8,603
November	8,426		4		1		189		8,621
December	9,258		2		.5		526		9,786
Total	105,747	95.8%	168	0.2%	68.5	0.1%	4,405	4.0%	110,391
1982									
January	10,194		27		3		576		10,799
February	9,026		6		2		386		9,420
March	9,170		8		3		165		9,347
April	8,593		14		3		0		8,610
May	7,464		13		2		0		7,479
June	7,750		6		0		0		7,756
July	8,741		11		5		0		8,757
August	8,627		12		3		0		8,642

Source: Ohio Electric Utilities' FPC Form 4 and the Ohio Department of Energy.

Table 5. Major Ohio Electric Utilities
Fuel Consumption and Stocks
(Ohio Portion)

	Coal (Thousand Tons)		Oil (Thousand 42-Gal. Bbls.)		Gas (MMCF)
1980	Burned	In Stock	Burned	In Stock	Burned
January	4,459.8	10,083.3	246.7	1,347.0	317
February	3,935.4	11,351.4	258.2	1,308.6	316
March	4,098.0	11,187.8	181.7	1,247.4	354
April	3,639.8	11,806.2	94.9	1,360.4	129
May	3,396.6	12,897.9	104.1	1,289.3	132
June	3,665.3	13,631.9	108.5	1,282.5	261
July	4,249.1	12,928.8	206.7	1,253.3	301
August	4,336.7	13,114.2	297.6	1,399.9	799
September	3,928.1	13,309.7	123.9	1,097.7	994
October	3,836.1	13,724.7	116.2	1,110.0	123
November	3,738.9	13,811.6	249.9	1,076.8	717
December	4,633.3	13,351.4	181.8	1,048.7	204
Total	47,917.2	--------	2,170.2	-------	4,647
Avg/Month	3,993.1	12,599.9	180.9	1,235.1	387
1981					
January	4,906.0	12,454.4	143.3	1,055.4	166
February	4,104.6	12,373.3	111.8	1,099.1	164
March	4,456.5	12,464.5	112.2	1,174.3	121
April	3,458.7	10,302.7	70.4	1,154.3	63
May	3,937.0	7,537.9	107.6	1,116.7	119
June	3,971.2	6,742.2	89.0	1,106.0	190
July	3,688.8	6,350.9	99.5	889.6	271
August	4,189.7	7,377.8	60.3	880.1	52
September	3,449.9	8,310.6	51.2	865.6	69
October	3,556.2	9,446.1	61.8	851.5	61
November	3,714.3	10,248.7	71.8	815.8	40
December	4,156.8	10,115.6	57.2	805.8	42
Total	47,589.7	---------	1,036.1	-----	1,358
Avg/Month	3,965.8	9,477.1	86.4	984.5	113
1982					
January	4,629.5	9,351.6	147.9	735.8	119
February	4,334.6	9,241.2	71.1	721.3	59
March	4,072.6	9,866.8	67.0	723.1	68
April	3,832.1	10,153.7	74.1	762.0	73
May	3,191.5	10,304.0	75.0	698.4	38
June	3,412.2	10,762.3	78.7	733.2	23
July	4,023.2	9,239.8	61.8	755.0	125
August	3,880.1	9,147.0	74.2	716.6	85

Source: FPC Form 4 of the major electric utilities and the Ohio Department of Energy.

Table 6. Ohio Electricity Consumption
October 1981 - September 1982
(Thousand MWH)

	October	November	December	January	February	March	April	May	June	July	August	September	Total
Residential													
1981-82	1,960.3	2,112.9	2,707.2	3,375.9	3,106.1	2,712.5	2,392.7	1,953.2	1,964.8	2,345.8	2,440.8	2,052.2	29,124.4
1980-81	2,012.9	2,193.3	2,699.3	3,333.8	2,962.9	2,603.3	2,179.5	1,985.8	2,065.1	2,521.2	2,370.1	2,197.2	29,124.4
% Change	-2.6	-3.7	0.3	1.3	4.8	4.2	9.8	-1.6	-4.8	-6.9	3.0	-6.6	0.0
Commercial													
1981-82	1,621.2	1,581.2	1,733.3	1,955.4	1,872.6	1,781.2	1,666.8	1,632.7	1,770.5	1,925.7	1,946.0	1,805.8	21,292.4
1980-81	1,617.6	1,579.3	1,721.2	1,902.9	1,793.0	1,700.4	1,594.1	1,565.2	1,758.5	1,989.6	1,906.0	1,849.5	20,977.3
% Change	0.2	0.1	0.7	2.8	4.4	4.8	4.6	4.3	0.6	-3.2	2.0	-2.4	1.5
Industrial													
1981-82	3,875.3	3,617.7	3,236.0	3,197.7	3,285.7	3,428.8	3,228.9	3,217.5	3,295.3	3,075.7	3,196.4	3,107.5	39,762.5
1980-81	3,910.3	3,823.2	3,918.8	3,861.1	3,952.8	4,048.0	3,927.2	3,930.4	4,006.0	3,898.6	4,011.2	3,843.9	47,131.5
% Change	-0.9	-5.4	-17.4	-17.2	-16.9	-15.3	-17.8	-18.1	-17.7	-21.1	-20.3	-19.1	-15.6
Other													
1981.82	421.1	447.5	490.1	507.0	499.6	491.6	438.8	408.8	423.5	399.1	396.7	395.0	5,318.8
1980-81	465.0	470.5	506.1	507.8	502.2	506.5	420.6	390.7	407.1	401.3	382.5	408.3	5,368.6
% Change	-9.4	-4.9	-3.0	-0.2	-0.5	-2.9	4.3	4.6	4.0	-0.5	3.7	-3.2	-0.9
Total													
1981-82	7,877.8	7,759.3	8,167.2	9,036.0	8,760.0	8,414.2	7,727.3	7.212.3	7,454.2	7,746.3	7,980.0	7,360.5	95,495.1
1980-81	8,006.7	8,066.3	8,845.4	9,605.6	9,210.9	8,858.2	8,121.4	7,872.1	8,236.6	8,810.8	8,669.7	8,298.9	102,602.6
% Change	-1.6	-3.8	-7.7	-5.9	-4.9	-5.0	-4.9	-8.4	-9.5	-12.0	-8.0	-11.3	-6.9
Customers (000)													
Residential	3,451.8	3,454.5	3,461.2	3,465.3	3,467.0	3,465.5	3,461.2	3,459.2	3,456.0	3,453.1	3,452.0	3,452.0	
Commercial	353.9	353.7	354.1	354.4	354.1	354.4	354.3	355.0	354.3	354.0	353.9	354.0	
Industrial	23.5	23.6	23.7	23.7	23.8	24.0	24.3	24.4	24.4	24.5	24.5	24.5	
Total	3,829.2	3,832.3	3,939.0	3,843.4	3,844.9	3,843.9	3,839.8	3,838.5	3,834.7	3,831.6	3,830.4	3,830.5	

Note:
(1) Percentage change is from the same period of the previous year (1980-1981).
(2) Excludes sales to other utilities.
(3) Figures may not add to exact totals because of independent rounding.
(4) Figures reported include CG&E, CEI, C&SOE, DP&L, Monongahela Power, Ohio Edison, Ohio Power and Toledo Edison.

Source: Ohio Electric Utility Institute's Monthly Summaries.

Table 7-A. Ohio Electric Utilities' Projected Deliveries, Consumption, and Stocks of Coal for Electricity Generation, 1982-1983, (1000 Short Tons)

	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
Allegheny											
Deliveries	1,203.8	1,203.8	1,250.4	1,250.4	1,250.4	1,250.4	1,250.4	1,250.4	1,250.4	1,250.4	1,250.4
Consumption	1,173.5	1,275.3	1,377.1	1,144.5	1,259.6	1,173.7	1.243.1	1,150.8	1,136.6	1,197.5	1,129.4
Stocks	3,717.4	3,645.9	3,519.3	3,625.2	3,616.0	3,692.8	3.700.1	3,799.7	3,913.5	3,966.5	4,087.5
American Electric Power											
Deliveries	3,074.0	3,559.0	3,482.0	3,314.0	3,813.0	3,314.0	3.481.0	2,980.0	2,487.0	3,813.0	3,481.0
Consumption	3,406.0	3,507.0	3,897.0	3,274.0	3,321.0	2,870.0	2.831.0	2,984.0	3,411.0	3,382.0	2,920.0
Stocks	11,700.0	11,752.0	11,337.0	11,377.0	11,869.0	12,313.0	12.963.0	12,959.0	12,035.0	12,466.0	13,027.0
Cincinnati Gas & Electric											
Deliveries	470.0	610.0	565.0	514.0	612.0	425.0	423.0	550.0	585.0	600.0	525.0
Consumption	473.0	609.8	564.0	513.3	612.2	423.0	422.9	549.0	589.6	599.2	524.9
Stocks	1,197.0	1,197.2	1,198.2	1,198.9	1,198.7	1,200.7	1,200.8	1,201.8	1,197.2	1,198.0	1,198.1
Cleveland Electric Illuminating											
Deliveries	422.4	485.6	501.9	442.9	459.1	386.8	433.3	413.7	385.7	437.4	418.4
Consumption	422.4	485.6	501.9	442.9	459.1	386.8	433.3	413.7	385.7	437.4	418.4
Stocks	906.6	906.6	906.6	906.6	906.6	906.6	906.6	906.6	906.6	906.6	906.6
Dayton Power & Light[1]											
Deleveries	482.0	555.0	616.0	540.0	470.0	427.0	442.0	526.0	529.0	550.0	420.0
Consumption	483.0	562.0	582.0	540.0	468.0	431.0	445.0	514.0	539.0	544.0	425.0
Stocks	1,066.0	1,059.0	1,093.0	1,093.0	1,095.0	1,091.0	1,088.0	1,100.0	1,090.0	1,096.0	1,091.0
Ohio Edison System											
Deliveries	847.1	948.4	993.8	900.1	836.5	711.8	725.9	777.8	923.4	916.6	822.4
Consumption	791.1	960.6	993.8	900.1	908.1	752.1	771.2	864.8	1,024.0	1,012.9	844.4
Stocks	2,375.8	2,363.6	2,363.6	2,363.6	2,292.1	2,251.7	2,206.4	2,119.4	2,018.9	1,922.6	1,900.6
Ohio Valley Electric Corp.											
Deliveries	568.0	562.0	598.0	529.0	571.0	568.0	571.0	579.0	628.0	598.0	597.0
Consumption	602.0	596.0	598.0	529.0	571.0	568.0	571.0	579.0	628.0	598.0	597.0
Stocks	1,373.0	1,339.0	1,339.0	1,339.0	1,339.0	1,339.0	1,339.0	1,339.0	1,339.0	1,339.0	1,339.0
Toledo Edison Co.											
Deliveries	116.0	116.0	132.0	137.0	145.0	132.0	127.0	138.0	138.0	129.0	151.0
Consumption	100.0	118.0	140.0	138.0	136.0	111.0	120.0	131.0	130.0	129.0	174.0
Stocks	445.0	443.0	435.0	434.0	443.0	464.0	471.0	478.0	486.0	486.0	463.0

Note: [1]Figures are rounded off to the nearest thousand.

Source: ODOE Form SE-3A.

Table 7-B. Ohio Electric Utilities' Projected Deliveries, Consumption, and Stocks of Oil for Electricity Consumption, 1982-1983 (1000 Bbls.)

	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.
Allegheny Power System												
Deliveries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stocks	440.0	440.0	440.0	440.0	440.0	440.0	440.0	440.0	440.0	440.0	440.0	440.0
American Electric Power												
Deliveries	58.0	56.0	60.0	54.0	53.0	57.0	58.0	56.0	57.0	61.0	55.0	60.0
Consumption	58.0	56.0	60.0	54.0	53.0	57.0	58.0	56.0	57.0	61.0	55.0	60.0
Stocks	362.0	362.0	362.0	362.0	362.0	362.0	362.0	362.0	362.0	362.0	362.0	362.0
Cincinnati Gas & Electric												
Deliveries	8.0	8.0	16.0	40.0	8.0	16.0	32.0	32.0	8.0	32.0	8.0	40.0
Consumption	7.3	3.3	17.6	41.0	7.0	15.1	31.6	32.8	8.9	34.4	11.1	39.2
Stocks	93.2	97.9	96.3	95.3	96.3	97.2	97.6	96.8	95.9	93.5	90.4	91.2
Cleveland Electric Illuminating												
Deliveries	44.4	14.1	35.6	42.2	40.6	38.2	65.4	45.0	29.1	29.1	35.0	29.8
Consumption	44.4	14.1	35.6	42.2	40.6	38.2	65.4	45.0	29.1	29.1	35.0	29.8
Stocks	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6
Dayton Power and Light[1]												
Deliveries	32.0	40.0	33.0	31.0	6.0	275.0	2.0	2.0	3.0	3.0	19.0	6.0
Consumption	33.0	41.0	33.0	32.0	6.0	4.0	4.0	4.0	5.0	6.0	13.0	17.0
Stocks	123.0	123.0	123.0	122.0	122.0	393.0	392.0	390.0	388.0	385.0	391.0	380.0
Ohio Edison System												
Deliveries	0.0	1.5	3.6	5.6	11.9	0.8	0.9	1.6	6.2	3.8	0.3	3.7
Consumption	0.0	1.5	3.6	5.6	11.9	0.8	0.9	1.6	6.2	3.8	0.3	3.7
Stocks	117.2	117.2	117.2	117.2	117.2	117.2	117.2	117.2	117.2	117.2	117.2	117.2
Ohio Valley Electric Corp.												
Deliveries	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Consumption	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Stocks	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Toledo Edison System												
Deliveries	5.6	2.5	9.9	13.1	11.2	8.6	3.2	7.2	5.1	5.5	2.3	3.8
Consumption	5.6	2.5	9.9	13.1	11.2	8.6	3.2	7.2	5.1	5.5	2.3	3.8
Stocks[2]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: [1] Dayton Power and Light figures are rounded to nearest thousand.
[2] Toledo Edison projections of zero stocks was a reporting error. The company has verified that stocks are adequate through the reporting period.

Source: ODOE Form SE-3A

Table 7-C. Electric Utilities' Demand Forecast, Fuel Assessment, and Inventory Model (November 1982 - October 1983)

ALLEGHENY POWER SYSTEM

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	TOTAL
DEMAND FORECAST (GWH)	2592.8	2880.0	3233.8	2805.8	2807.9	2496.2	2534.0	2509.2	2597.1	2687.1	2505.1	2649.0	32298.0
EST DEMAND GEN BY COAL	2878.1	3196.8	3589.5	3114.4	3116.8	2770.8	2812.7	2785.2	2882.8	3170.8	2956.0	3125.8	36399.7
EST DEMAND GEN BY OIL	38.9	34.6	32.3	22.4	22.5	17.5	15.2	17.6	18.2	16.1	17.5	21.2	274.0
PROJ DAILY CONSUMPTION													
COAL (KTONS)	39.42	42.37	47.58	45.70	41.31	37.95	37.28	38.15	38.21	42.03	40.49	41.43	
OIL (KBBL)	3.35	2.88	2.69	2.07	1.87	1.50	1.27	1.51	1.51	1.34	1.51	1.76	
COAL DELIVERIES (KTONS)	1203.8	1203.8	1250.4	1250.4	1250.4	1250.4	1250.4	1250.4	1250.4	1250.4	1250.4	1250.4	14911.9
OIL DELIVERIES (KBBL)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
END OF MONTH STOCK													
COAL (KTONS)	3708.3	3598.6	3374.1	3344.8	3314.5	3426.4	3521.1	3627.1	3693.0	3640.5	3676.3	3642.3	
OIL (KBBL)	339.6	250.5	167.0	109.1	51.1	6.1	-33.2	-78.5	-125.4	-167.0	-212.3	-266.9	
NUMBER OF DAYS SUPPLY													
COAL	82.	79.	80.	86.	88.	90.	89.	90.	89.	89.	89.	88.	
OIL	156.	125.	94.	66.	35.	5.	-22.	-52.	-93.	-111.	-120.	-151.	

AMERICAN ELECTRIC POWER SYSTEM

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	TOTAL
DEMAND FORECAST (GWH)	6690.0	7474.0	8313.0	7571.0	7219.0	6380.0	6216.0	6261.0	6727.0	6918.0	6479.0	6739.0	82986.9
EST DEMAND GEN BY COAL	7024.5	8370.9	9393.7	8176.7	8157.5	7209.4	7770.0	7200.1	7668.8	7263.9	5533.1	5755.1	89523.5
EST DEMAND GEN BY OIL	26.8	29.9	24.9	22.7	7.2	6.4	6.2	6.3	6.7	6.9	6.5	6.7	157.2
PROJ DAILY CONSUMPTION													
COAL (KTONS)	109.37	126.13	141.54	136.40	122.91	112.25	117.08	112.11	115.55	109.45	86.15	86.72	
OIL (KBBL)	15.52	16.78	14.00	14.12	4.05	3.70	3.49	3.63	3.78	3.88	3.76	3.78	
COAL DELIVERIES (KTONS)	3074.0	3559.0	3482.0	3314.0	3813.0	3314.0	3481.0	2980.0	2487.0	3813.0	3481.0	3482.0	40280.0
OIL DELIVERIES (KBBL)	58.00	56.00	60.00	54.00	53.00	57.00	58.00	56.00	57.00	61.00	55.00	60.00	685.00
END OF MONTH STOCK													
COAL (KTONS)	******	******	******	9762.7	9765.3	9711.8	9563.5	9180.3	8085.2	8505.2	9401.7	******	
OIL (KBBL)	-45.7	-510.0	-884.1	******	******	******	******	******	******	******	******	******	
NUMBER OF DAYS SUPPLY													
COAL	86.	83.	83.	83.	86.	85.	85.	88.	85.	98.	108.	118.	
OIL	-3.	-36.	-63.	-302.	-351.	-387.	-386.	-385.	-390.	-419.	-431.	-447.	

Note: XXXX indicates value greater than 9,999.9.

Table 7-C. Electric Utilities Demand Forecast, Fuel Assessment, and Inventory Model (Cont'd.)
(November 1982 - October 1983)

CINCINNATI GAS & ELECTRIC

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	TOTAL
DEMAND FORECAST (GWH)	1241.8	1383.8	1411.7	1286.6	1305.2	1130.6	1249.3	1388.0	1498.3	1522.8	1282.9	1209.9	15911.7
EST DEMAND GEN BY COAL	1005.8	1120.9	1143.5	1042.1	1109.5	961.1	1061.9	1180.5	1048.8	1066.0	898.1	846.9	12484.9
EST DEMAND GEN BY OIL	6.2	5.5	1.4	5.1	10.4	10.2	8.7	8.3	6.0	3.0	7.7	8.5	81.2
PROJ DAILY CONSUMPTION													
COAL (KTONS)	15.57	16.80	17.13	17.29	16.62	14.88	15.91	18.28	15.72	15.97	13.90	12.69	
OIL (KBBL)	0.80	0.69	0.18	0.71	1.31	1.32	1.09	1.08	0.75	0.38	1.00	1.06	
COAL DELIVERIES (KTONS)	470.0	610.0	565.0	514.0	612.0	425.0	423.0	550.0	585.0	600.0	525.0	472.0	6351.0
OIL DELIVERIES (KBBL)	8.00	8.00	16.00	40.00	8.00	16.00	32.00	32.00	8.00	32.00	8.00	40.00	248.00
END OF MONTH STOCK													
COAL (KTONS)	1202.8	1292.1	1326.0	1355.9	1452.6	1431.2	1360.9	1362.6	1460.4	1565.3	1673.1	1751.7	
OIL (KBBL)	76.4	62.9	73.5	93.5	61.0	37.5	35.6	35.3	20.0	40.2	18.3	25.5	
NUMBER OF DAYS SUPPLY													
COAL	71.	76.	81.	86.	89.	86.	81.	89.	104.	120.	132.	138.	
OIL	113.	88.	69.	73.	50.	34.	34.	62.	39.	40.	17.	24.	

CLEVELAND ELECTRIC ILLUMINATING COMPANY

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	TOTAL
DEMAND FORECAST (GWH)	1480.0	1635.0	1715.0	1533.0	1633.0	1451.0	1521.0	1571.0	1634.0	1671.0	1501.0	1549.0	18894.0
EST DEMAND GEN BY COAL	962.0	1062.7	1114.7	996.4	1061.4	870.6	912.6	942.6	980.4	1002.6	900.6	929.4	11736.2
EST DEMAND GEN BY OIL	32.6	32.7	30.9	26.1	16.3	18.9	31.9	12.6	16.3	15.0	13.5	15.5	262.3
PROJ DAILY CONSUMPTION													
COAL (KTONS)	13.77	14.72	15.44	15.28	14.70	12.46	12.64	13.49	13.58	13.88	12.89	12.87	
OIL (KBBL)	2.74	2.66	2.52	2.35	1.33	1.59	2.60	1.06	1.33	1.23	1.14	1.26	
COAL DELIVERIES (KTONS)	422.4	485.6	501.9	442.9	459.1	386.8	433.3	413.7	385.7	437.4	418.4	469.0	5256.2
OIL DELIVERIES (KBBL)	44.36	14.12	35.57	42.21	40.57	38.21	65.43	44.98	29.12	29.05	35.00	29.76	448.38
END OF MONTH STOCK													
COAL (KTONS)	916.1	945.4	968.8	983.9	987.3	1000.3	1041.9	1050.9	1015.7	1022.7	1054.5	1124.5	
OIL (KBBL)	352.7	284.2	241.8	218.2	217.5	208.1	192.8	206.0	193.9	184.9	185.8	176.4	
NUMBER OF DAYS SUPPLY													
COAL	61.	62.	66.	73.	77.	76.	77.	77.	76.	79.	82.	87.	
OIL	165.	140.	126.	135.	135.	137.	160.	165.	157.	149.	147.	140.	

Table 7-C. Electric Utilities Demand Forecast, Fuel Assessment, and Inventory Model (Cont'd.)
(November 1982 - October 1983)

DAYTON POWER & LIGHT

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	TOTAL
DEMAND FORECAST (GWH)	922.6	1936.9	1107.7	994.7	976.6	854.8	852.6	887.5	974.7	980.1	876.2	918.3	11382.6
EST DEMAND GEN BY COAL	968.7	1088.7	1107.7	994.7	1025.4	897.5	963.4	905.2	955.3	784.1	683.5	688.7	11062.9
EST DEMAND GEN BY OIL	21.2	27.0	25.5	19.9	8.8	6.0	5.1	4.4	7.8	6.9	6.1	6.4	145.1
PROJ DAILY CONSUMPTION													
COAL (KTONS)	14.78	16.08	16.36	16.26	15.14	13.70	14.23	13.81	14.11	11.58	10.43	10.17	
OIL (KBBL)	1.97	2.42	2.29	1.98	0.79	0.56	0.46	0.41	0.70	0.62	0.57	0.58	
COAL DELIVERIES (KTONS)	482.0	555.0	616.0	540.0	470.0	427.0	442.0	526.0	529.0	550.0	420.0	458.0	6015.0
OIL DELIVERIES (KBBL)	32.00	40.00	33.00	31.00	6.00	275.00	2.00	2.00	3.00	3.00	19.00	6.00	452.00
END OF MONTH STOCK													
COAL (KTONS)	1105.5	1162.1	1271.0	1355.6	1356.2	1372.3	1373.2	1484.8	1576.5	1767.6	1874.7	2017.4	
OIL (KBBL)	96.9	61.7	23.7	-0.7	-19.2	239.1	226.8	216.5	197.7	181.6	183.5	171.6	
NUMBER OF DAYS SUPPLY													
COAL	68.	72.	84.	94.	97.	99.	108.	129.	150.	173.	184.	198.	
OIL	40.	27.	12.	-1.	-35.	420.	393.	366.	340.	315.	318.	297.	

OHIO EDISON SYSTEM

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	TOTAL
DEMAND FORECAST (GWH)	2090.1	2341.2	2468.1	2196.1	2271.9	2086.9	2114.3	2111.1	2195.6	2268.0	2092.2	2198.5	26434.0
EST DEMAND GEN BY COAL	2131.9	2388.0	2517.5	2240.0	2271.9	2086.9	2114.3	1900.0	1976.0	2041.2	1883.0	2220.5	25771.2
EST DEMAND GEN BY OIL	6.3	7.0	4.9	4.4	6.8	2.1	4.2	2.1	8.8	9.1	4.2	11.0	70.9
PROJ DAILY CONSUMPTION													
COAL (KTONS)	34.39	37.28	39.30	38.71	35.46	33.66	33.00	30.65	30.85	31.86	30.37	34.66	
OIL (KBBL)	0.45	0.49	0.35	0.34	0.48	0.15	0.30	0.15	0.61	0.63	0.30	0.77	
COAL DELIVERIES (KTONS)	847.1	948.4	993.8	900.1	836.5	711.8	725.9	777.8	923.4	916.6	822.4	866.4	10270.1
OIL DELIVERIES (KBBL)	0.0	1.50	3.57	5.64	11.88	0.81	0.93	1.59	6.21	3.81	0.29	3.67	39.90
END OF MONTH STOCK													
COAL (KTONS)	2135.2	1928.0	1703.6	1519.7	1256.9	958.8	661.6	520.0	487.2	416.0	327.3	119.2	
OIL (KBBL)	103.6	89.9	82.7	78.9	76.0	72.2	64.0	61.0	48.2	32.3	23.6	3.4	
NUMBER OF DAYS SUPPLY													
COAL	56.	49.	45.	43.	37.	29.	22.	17.	15.	14.	9.	3.	
OIL	268.	240.	217.	207.	196.	167.	137.	109.	86.	60.	31.	4.	

Table 7-C. Electric Utilities Demand Forecast, Fuel Assessment, and Inventory Model (Cont'd.)
(November 1982 - October 1983)

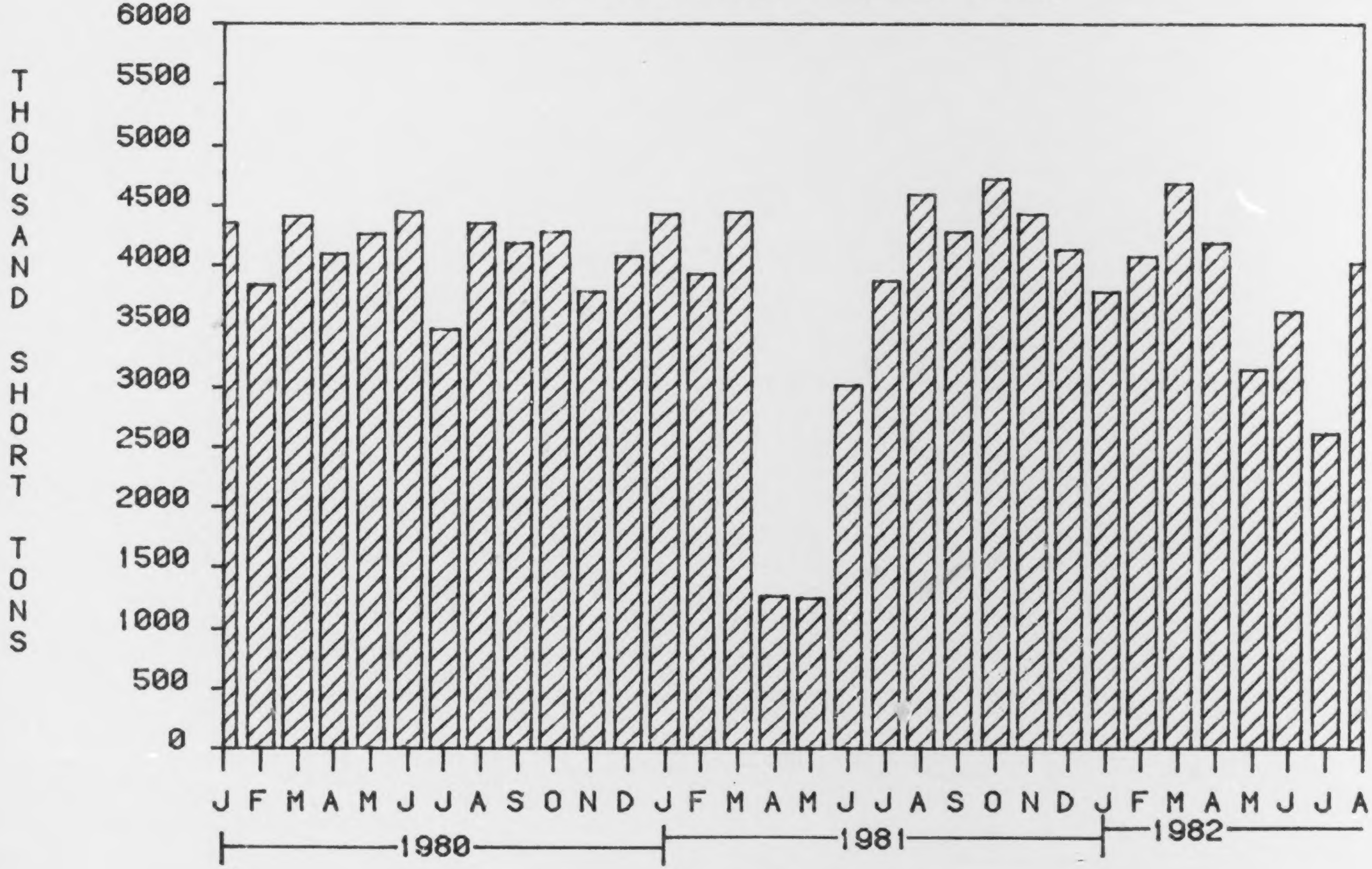
OHIO VALLEY ELECTRIC CORPORATION

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	TOTAL
DEMAND FORECAST (GWH)	1445.2	1432.5	1441.4	1260.7	1362.5	1348.0	1352.1	1360.9	1450.6	1368.4	1383.0	1350.5	16555.7
EST DEMAND GEN BY COAL	1445.2	1561.4	1643.2	1210.3	1294.4	1294.0	1271.0	1320.0	1334.5	1341.0	1383.0	1310.0	16408.1
EST DEMAND GEN BY OIL	1.4	1.4	0.0	0.0	1.4	1.3	2.7	0.0	1.5	1.4	0.0	1.4	12.5
PROJ DAILY CONSUMPTION													
COAL (KTONS)	20.26	21.19	22.29	18.18	17.56	18.14	17.24	18.51	18.11	18.19	19.39	17.77	
OIL (KBBL)	0.10	0.09	0.0	0.0	0.09	0.09	0.17	0.0	0.09	0.09	0.0	0.09	
COAL DELIVERIES (KTONS)	568.0	562.0	598.0	529.0	571.0	568.0	571.0	579.0	628.0	598.0	597.0	569.0	6938.0
OIL DELIVERIES (KBBL)	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	18.00
END OF MONTH STOCK													
COAL (KTONS)	1367.2	1272.4	1179.3	1199.2	1225.8	1249.5	1286.0	1309.7	1376.4	1410.4	1425.7	1443.7	
OIL (KBBL)	4.6	3.2	4.7	6.2	5.0	3.8	-0.1	1.4	0.0	-1.2	0.3	-0.9	
NUMBER OF DAYS SUPPLY													
COAL	63.	63.	66.	67.	69.	70.	70.	72.	74.	77.	80.	81.	
OIL	110.	96.	81.	66.	43.	22.	29.	15.	0.	16.	3.	-11.	

TOLEDO EDISON

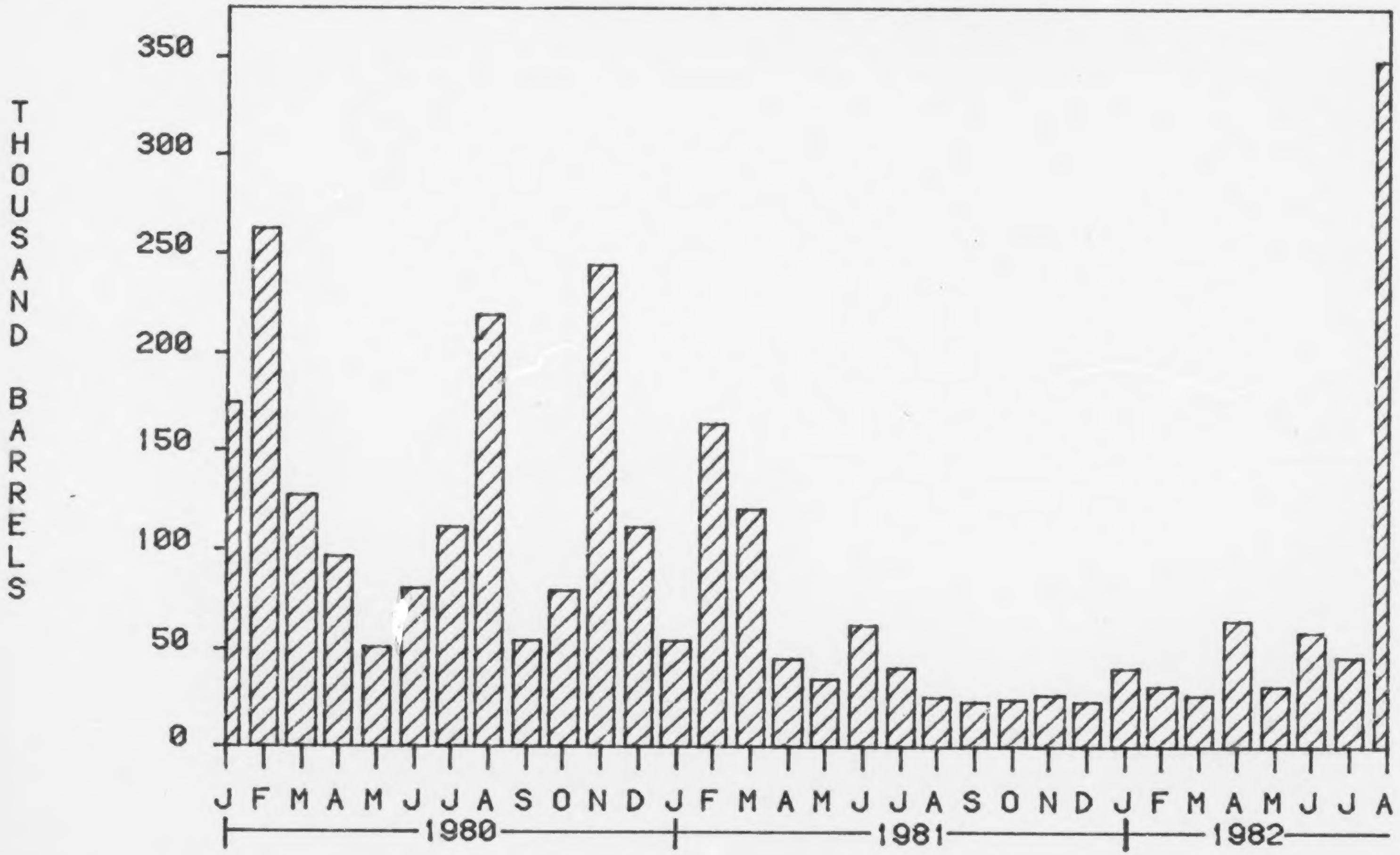
	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	TOTAL
DEMAND FORECAST (GWH)	616.9	645.0	730.7	699.6	707.5	631.0	612.6	636.5	645.3	671.6	633.4	631.8	7862.0
EST DEMAND GEN BY COAL	368.3	394.8	401.1	422.5	422.4	387.4	311.8	283.3	313.0	410.4	447.2	391.1	4553.2
EST DEMAND GEN BY OIL	0.6	0.6	2.2	5.6	2.8	3.8	2.5	3.8	1.3	2.0	1.9	1.3	28.4
PROJ DAILY CONSUMPTION													
COAL (KTONS)	4.97	5.15	5.24	6.11	5.52	5.23	4.07	3.82	4.09	5.36	6.03	5.11	
OIL (KBBL)	0.05	0.05	0.18	0.52	0.24	0.33	0.21	0.33	0.11	0.17	0.17	0.11	
COAL DELIVERIES (KTONS)	116.0	116.0	132.0	137.0	145.0	132.0	127.0	138.0	138.0	129.0	151.0	156.0	1617.0
OIL DELIVERIES (KBBL)	5.60	2.52	9.90	13.07	11.19	8.55	3.17	7.19	5.10	5.52	2.26	3.79	77.86
END OF MONTH STOCK													
COAL (KTONS)	395.9	352.1	321.7	287.7	261.7	236.9	237.6	261.0	272.3	235.2	205.2	202.9	
OIL (KBBL)	4.0	4.8	9.0	7.5	11.3	10.0	6.8	4.0	5.7	6.0	3.3	3.8	
NUMBER OF DAYS SUPPLY													
COAL	74.	62.	55.	53.	56.	60.	60.	56.	49.	41.	40.	40.	
OIL	44.	26.	7.	31.	37.	42.	20.	35.	34.	40.	31.	36.	

FIGURE 2. MONTHLY COAL DELIVERIES TO POWER PLANTS IN OHIO, JANUARY 1980 - AUGUST 1982



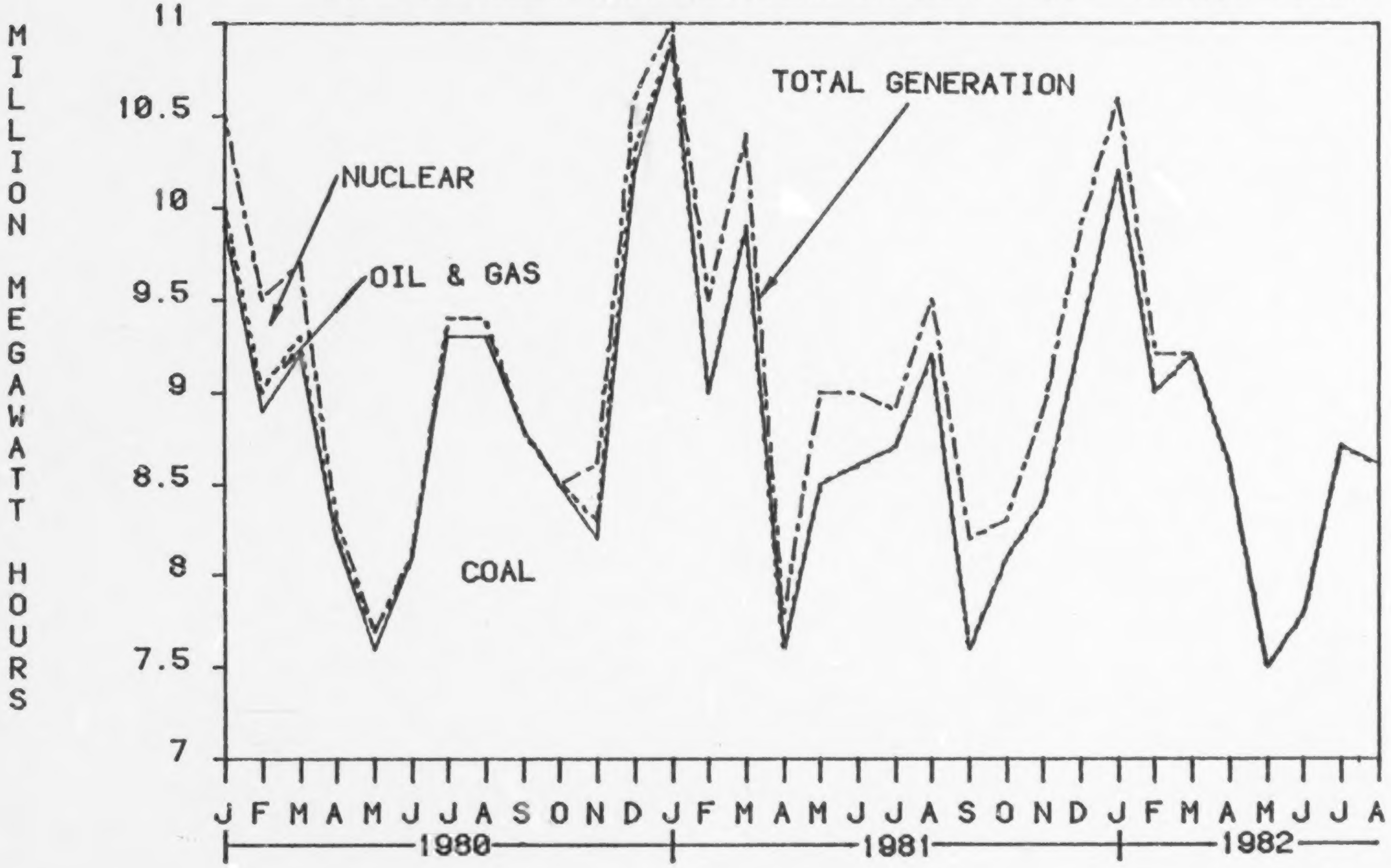
SOURCE: OHIO DEPARTMENT OF ENERGY.

FIGURE 3. MONTHLY OIL DELIVERIES TO POWER PLANTS IN OHIO, JANUARY 1980 - AUGUST 1982



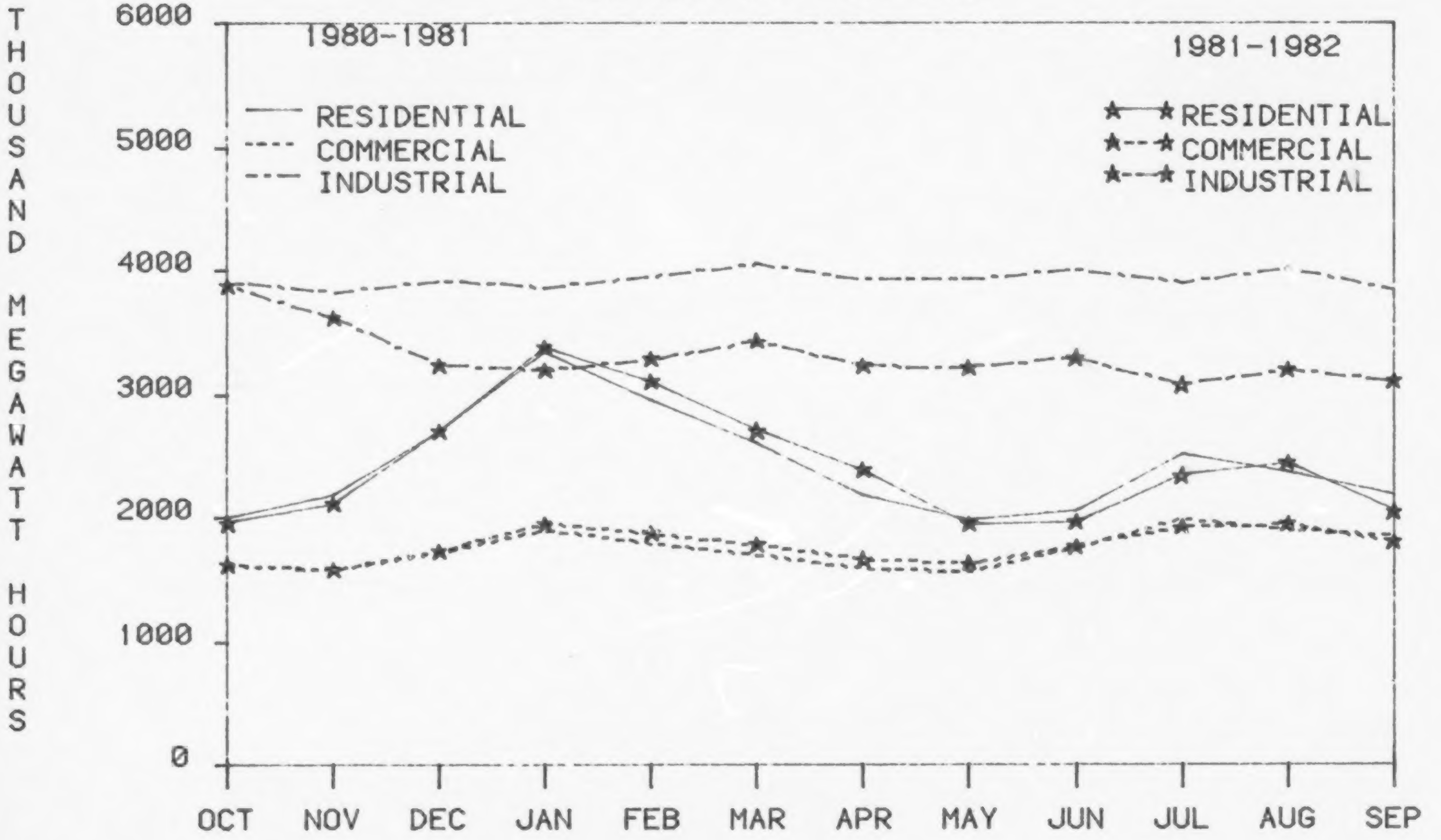
SOURCE: OHIO DEPARTMENT OF ENERGY.

FIG. 4. MAJOR OHIO ELECTRIC UTILITIES NET GENERATION BY TYPE OF FUEL, OHIO PORTION, JANUARY 1980 - AUGUST 1982



SOURCE: OHIO DEPARTMENT OF ENERGY.

FIG. 5A. COMPARISON OF OHIO ELECTRICITY CONSUMPTION BY SECTOR, 1980-1981 AND 1981-1982



SOURCE: OHIO DEPARTMENT OF ENERGY

FIGURE 5B. OHIO TOTAL ELECTRICITY CONSUMPTION,
1980-1981 AND 1981-1982

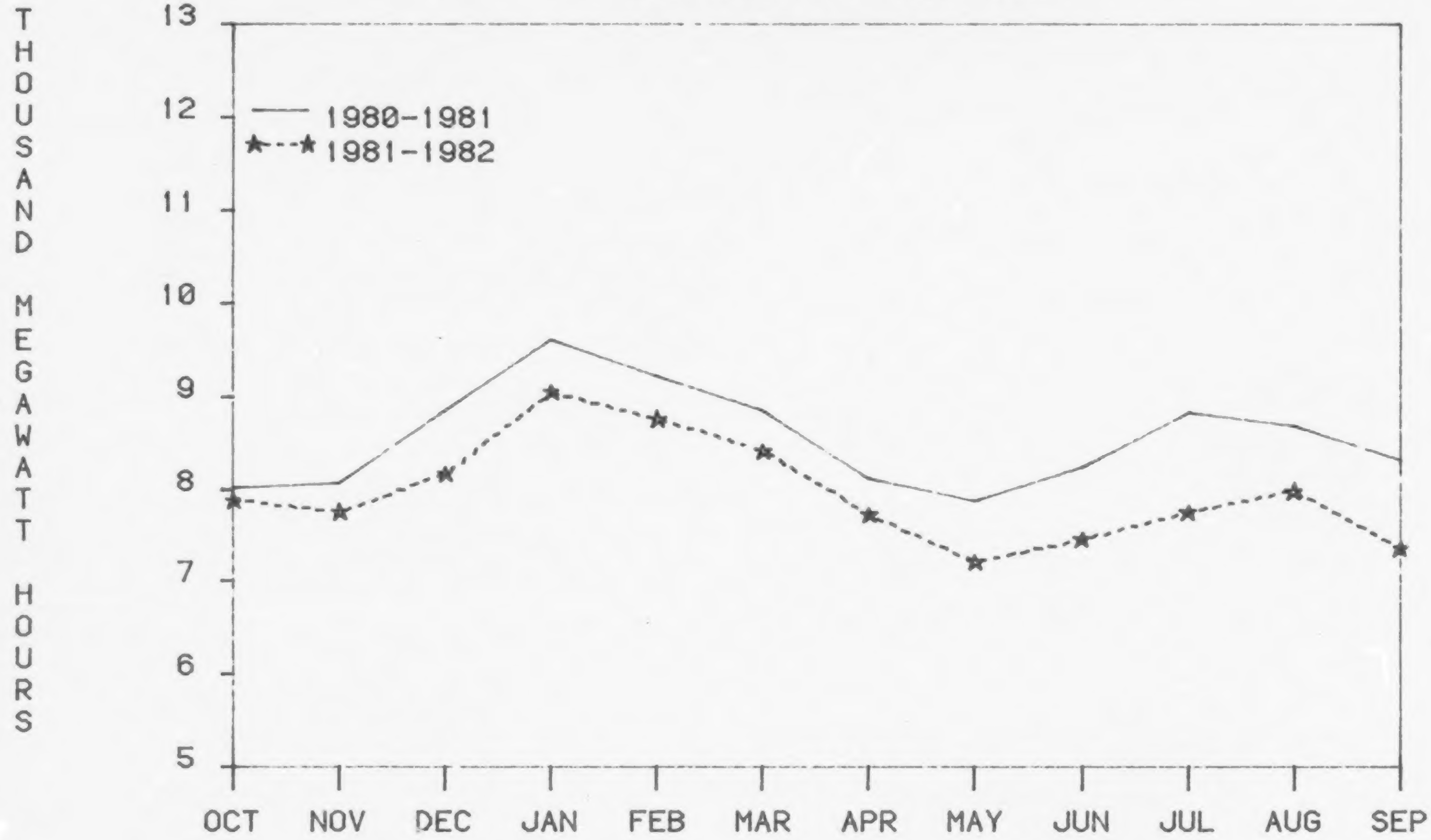
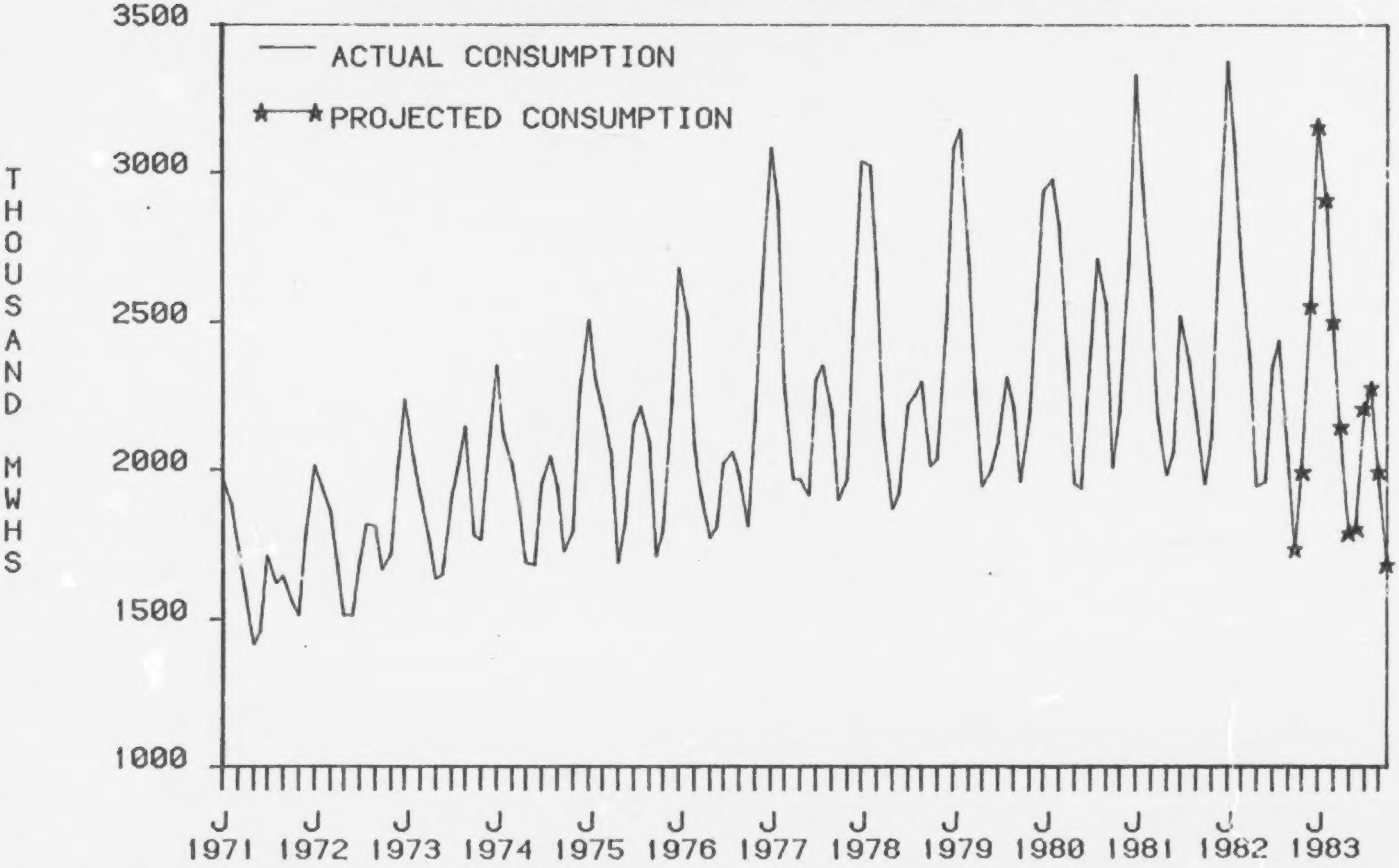
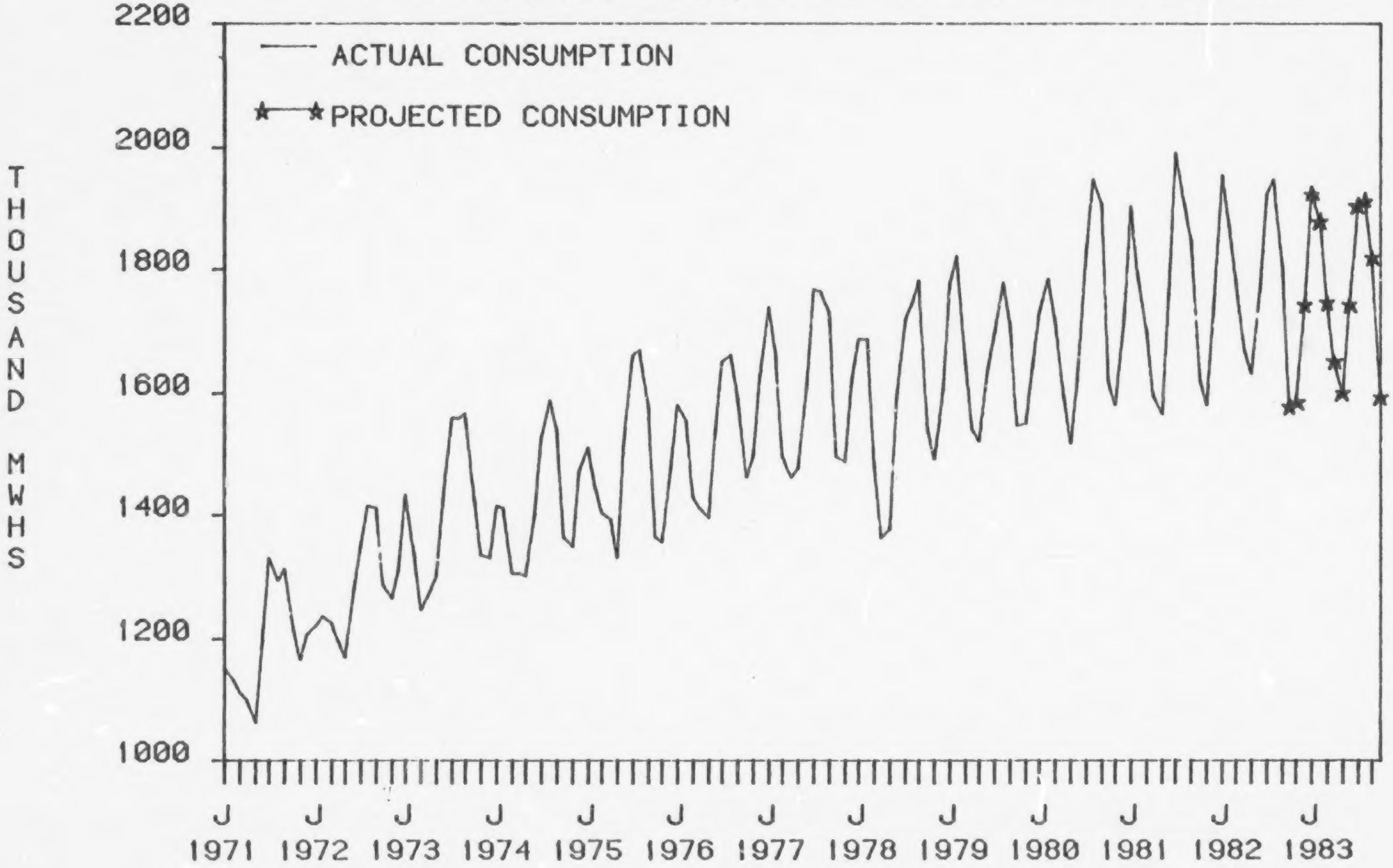


FIG. 6. MONTHLY OHIO RESIDENTIAL ELECTRICITY CONSUMPTION, ACTUAL AND PROJECTED, JANUARY 1971 - OCTOBER 1983



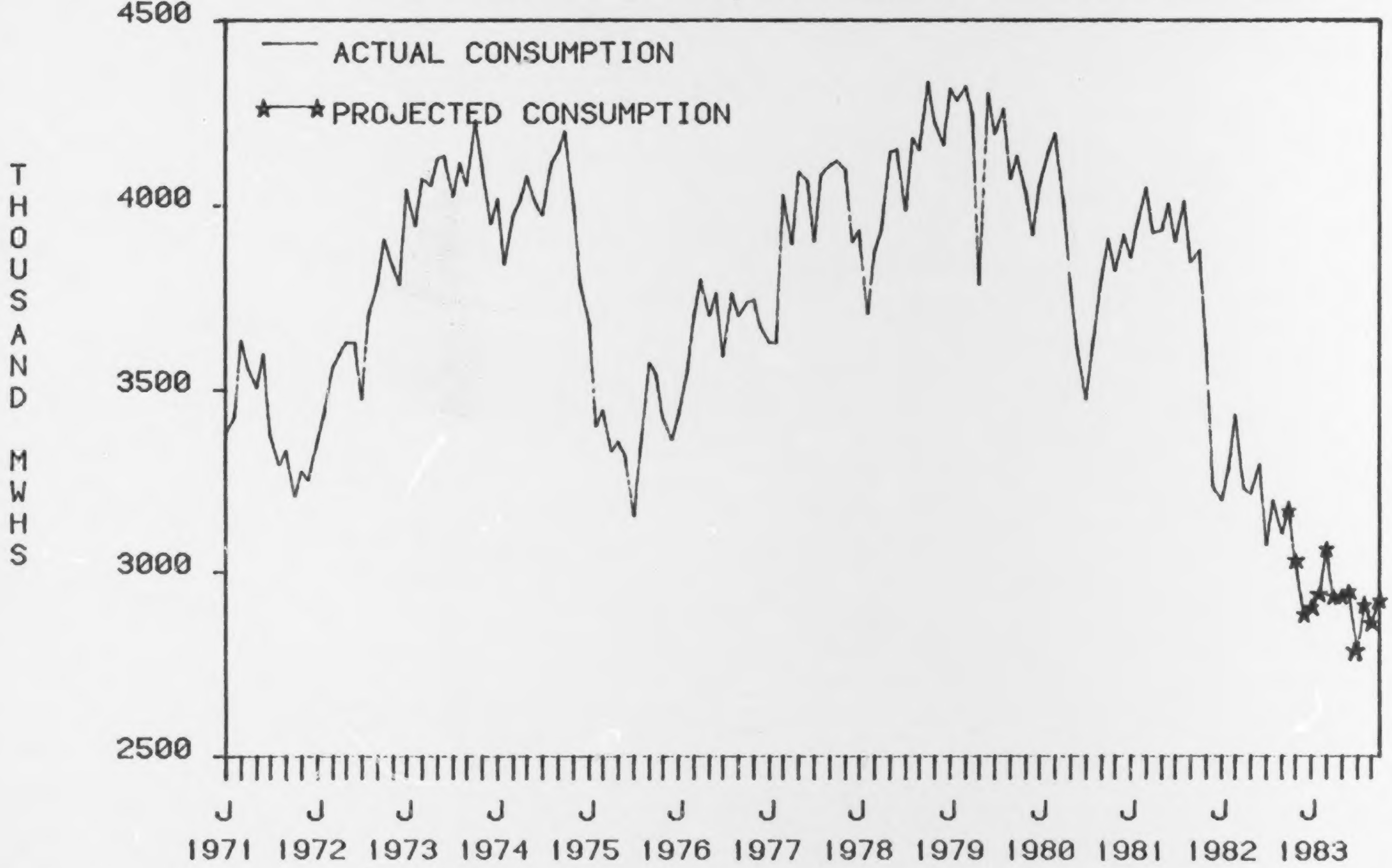
SOURCE: OHIO ELECTRIC UTILITY INSTITUTE AND THE OHIO DEPARTMENT OF ENERGY, (EXCLUDING OVEC).

FIG. 7. MONTHLY OHIO COMMERCIAL ELECTRICITY CONSUMPTION, ACTUAL AND PROJECTED, (JANUARY 1971 - OCTOBER 1983)



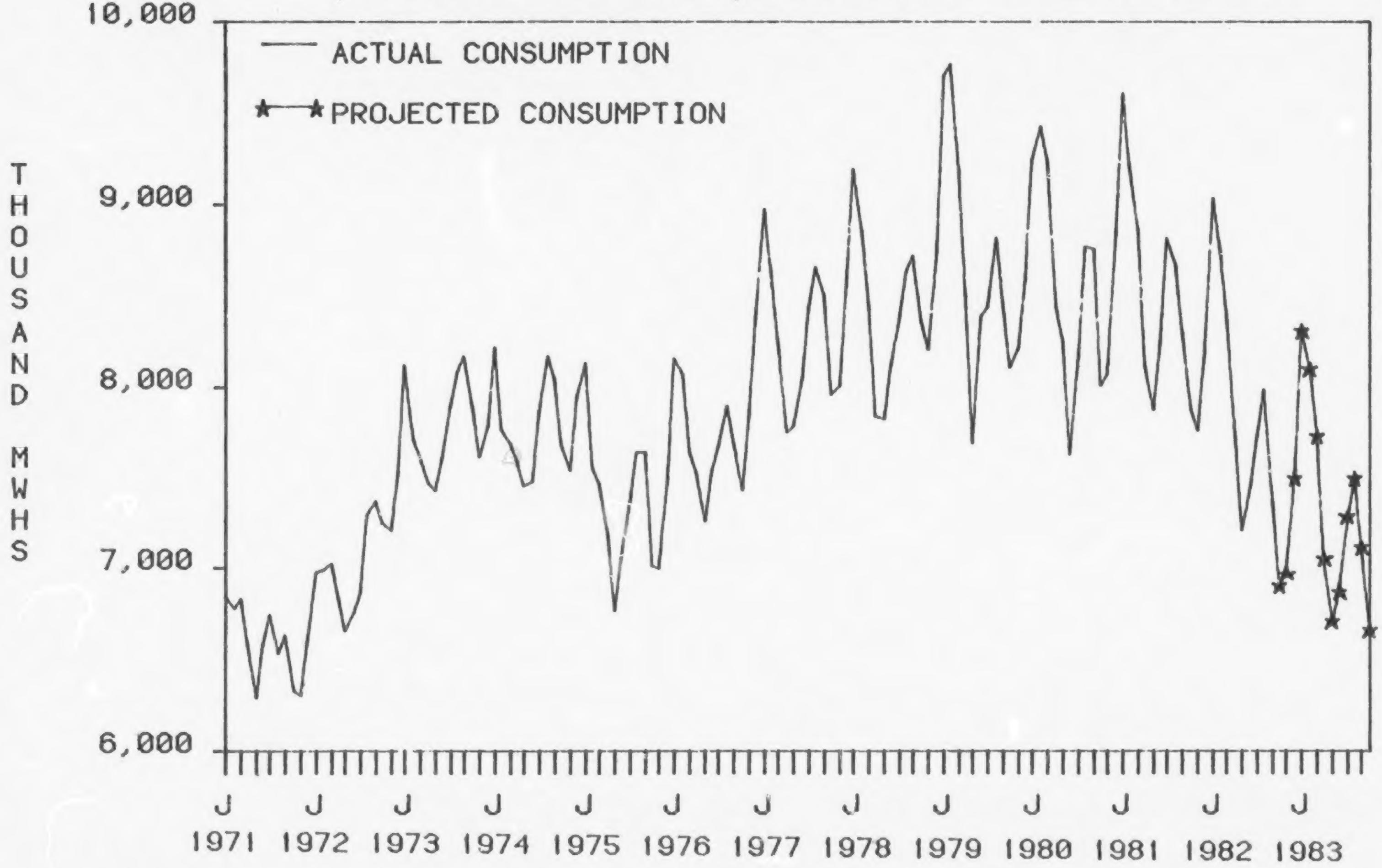
SOURCE: OHIO ELECTRIC UTILITY INSTITUTE AND THE OHIO DEPARTMENT OF ENERGY, (EXCLUDING OVEC).

FIG. 8. MONTHLY OHIO INDUSTRIAL ELECTRICITY CONSUMPTION, ACTUAL AND PROJECTED, (JANUARY 1971 - OCTOBER 1983)



SOURCE: OHIO ELECTRIC UTILITY INSTITUTE AND THE OHIO DEPARTMENT OF ENERGY, (EXCLUDING OVEC).

FIG. 9. TOTAL MONTHLY ELECTRICITY CONSUMPTION, ACTUAL AND PROJECTED, (JANUARY 1971 - OCTOBER 1983)



SOURCE: OHIO ELECTRIC UTILITY INSTITUTE AND THE OHIO DEPARTMENT OF ENERGY, (EXCLUDING OVEC).

NATURAL GAS

This section presents an overview of the natural gas market in Ohio. First, the distribution and supply system is described, followed by an account of historical gas demand. Next, a quantitative analysis of historical gas demand patterns provides the basis for forecasts of future demand. A summary of utilities' forecasts and a presentation of the ODOE forecast provide a twelve-month outlook. Finally, alternative fuel use is briefly discussed.

Distribution and Supply

Service shares of the gas distribution companies operating in Ohio are presented in Table 8 for the annual period September 1981 to August 1982. During this period of time, the four large distribution companies--Cincinnati Gas and Electric, Columbia Gas of Ohio, Dayton Power and Light, and East Ohio Gas--jointly distributed 93.89 percent of the reported natural gas requirements of the state. The four intermediate companies--National Gas and Oil, Ohio Gas, River Gas, and West Ohio Gas--distributed an additional 4.45 percent. The remaining 1.66 percent of the reported natural gas requirements were distributed by 22 small utilities and two municipal utilities. The figures presented in Table 8 do not include self-help natural gas, which is gas obtained by a customer for his own use.

The major sources of supplies of natural gas to the state of Ohio are presented in Table 9, and the quantities supplied are shown graphically in Figure 10. From September 1981 through August 1982, the eight major gas distribution companies of Ohio, which together account for 98.34 percent of the reported natural gas distribution in the state, procured 885,564 MMCF of natural gas to meet Ohio's requirements. This represents a 4.4 percent decrease in the supplies of natural gas to Ohio compared to the same period last year. This decline reflects the reaction of Ohio's gas distribution companies to the declining natural gas requirements of residential, commercial, and especially industrial end-users in Ohio.

Of the 885,564 MMCF total procurement, interstate gas purchases and synthetic natural gas (SNG) comprise 93.65 percent (see Table 9). Purchases of Ohio gas comprise the remaining 6.35 percent of the total. The 56,241 MMCF of Ohio production of natural gas purchased by the eight major gas utilities from September 1981 to August 1982 represent an 8.6 percent decrease from their purchases of Ohio product during the preceding annual period. This amount corresponds approximately to 39.8 percent of the state's total production of 141,134 MMCF in calendar year 1981.

Domestic interstate gas is the major source of supply for Ohio. Columbia Gas Transmission Corporation and Consolidated Gas Supply Corporation provided 73.09 percent of the natural gas supplied to the eight major Ohio gas distribution companies from September 1981 through August 1982. No liquefied natural gas (LNG) imports were included in these supplies; and no LNG imports are anticipated by either company as a source of supply for the 1982-1983 heating season.

Table 10 exhibits a monthly comparison of actual and projected supplies, by distribution company source, for the eight major gas utilities.

Historical Behavior of Sectoral Requirements

A discussion of the historical patterns of sectoral gas requirements is included in Appendix B.

Utility Forecasts: Twelve-Month Outlook

On the basis of utilities' projected natural gas supplies, and the historically established trends in natural gas requirements, the outlook for the next twelve months indicates no supply shortages under normal or 10 percent colder than normal weather conditions, concurrent with projected price increases.

Aggregate supply and demand projections of the eight major utilities, as presented in Table 16 and Figure 22, indicate a 0.6 percent annual surplus of natural gas supplies over requirements. All eight utilities project supply to be in excess of requirements during the 1982-83 heating season. Supply and demand projections of the individual utilities, as submitted in their "Monthly Reports of Supply and Demand of Natural Gas," are summarized in Appendix B, Table B-10.

Because natural gas is the primary source of space heating for the residential and commercial sectors, over 60 percent of the natural gas consumed in Ohio is used during the heating season. Table 17 shows the actual aggregate monthly requirements for the eight major utilities from September 1981 through August 1982, along with the utilities' consolidated projections for the September 1982 through August 1983 period. The forecast shows reductions in demand in the residential, commercial, and "other" sectors, with an increase in industrial sector demand. Figure 23 is a graphic representation of the utilities' consolidated sectoral projections for the forecast period. Overall, the forecast total annual gas requirement shows virtually no change from last year's demand during the same twelve-month period.

The Ohio Department of Energy will be monitoring developments in the supplies and requirements of natural gas throughout the rest of the year and will take appropriate action if a critical situation develops. However, ODOE's current conclusion is that prevailing conditions portend no shortages or curtailments of natural gas during the 1982-83 heating season.

ODOE Independent Forecast

Methodology

The independent natural gas demand forecasts prepared by ODOE for the eight major gas utilities serving Ohio are based upon time series analyses of sectoral requirements for each individual month of the year, between 1970 and 1981, adjusted for long-term annual trends or severe climatic conditions.

Time series models, with adjustments, yield projections that possess statistical properties that are at least as accurate as alternative short-term forecasting techniques. They also offer the added flexibility of being able to produce updated forecasts every time the most recent actual monthly requirements are reported to ODOE. The utilization of an adjusted time series methodology is expected to provide a double check and reduce forecasting error, and thus, lead to a more accurate and decisive diagnosis of energy requirements of the state.

Results and Outlook

The results obtained on the basis of this methodology for the 1982-83 heating season are presented in Tables 18 through 22. Although the summary results presented in Table 18 indicate a possible shortage of 8.42 percent in the case of a 10 percent colder than normal winter, the current supply or storage capacities of Ohio natural gas utilities would be able to make up for this potential shortfall if the projected levels of requirements were to actualize. On the other hand, if industrial demand continues to decline in the second half of 1982 as it has in the preceding twelve-month period, then supplies may be sufficient for the state even at their presently projected levels.

Given conservation efforts and increasing supplies of natural gas, dramatic changes in the behavior of residential and the commercial natural gas requirements are not anticipated in the near future. Residential and commercial sector requirements are expected to stabilize near 1978 or 1979 levels as the economy recovers from the recession. Major climatic deviations, such as a repeat of the winter of 1976, may create temporary increases in residential or commercial demands, but sustained growth of natural gas consumption is not projected. Even if real per-capita incomes increase substantially, gas consumption is expected to remain stable, since higher prices will discourage high levels of demand.

Industrial sector demand is expected to continue its decline, primarily since industrial customers are switching to residual fuel oil as an economical energy source. Rapid increases in gas prices are bringing oil into the picture as a competitively priced fuel. Many industrial and large commercial firms are developing dual fuel capability (oil and gas) in order to respond to possible unforseen price fluctuations.

However, many small industrial and commercial firms, as well as residential customers, will not have fuel switching capability. This will no doubt increase conservation efforts as gas prices continue to escalate.

Barring exceptionally severe weather conditions or price changes, and deliverability problems from interstate pipelines, ODOE forecasts an adequate gas supply combined with decreasing or stabilizing demand for the twelve-month forecast period.

Independent forecasts of the four large utilities' total requirements for the annual period September 1982-August 1983, are presented in Appendix B, Tables B-1 through B-4. In Tables B-5 through B-8 of Appendix B, we present twelve-month forecasts of sectoral end-use requirements for the state as a whole. The forecasts included in Tables B-5 through B-8 have also been adjusted for the long-term historical trends observed in sectoral natural gas requirements in Ohio.

Alternative Fuel Use Capability Profile

There have been no natural gas curtailments in Ohio since 1978, and neither Ohio gas utilities nor the gas pipeline companies project any curtailments for the September 1982 through August 1983 period. However, in the event of a projected shortage, it is anticipated that fuel switching capability would be accelerated, though this applies only to industrial and large commercial users. Detailed emergency plans that describe strategies to respond to fuel supply shortfalls are on file at ODOE.

Table 8. Total Natural Gas Requirements of All Commercial Utilities in Ohio, September 1981 through August 1982 (MMCF)

	(1) Sales to All End Users	(2) Storage (In)	Total Requirement (1+2)	Percent of Total Ohio Requirement
Cincinnati Gas and Electric Co.	88,624	0	88,624	9.84
Columbia Gas of Ohio	316,421	0	316,421	35.14
Dayton Power and Light Co.	58,284	0	58,284	6.47
East Ohio Gas Co.	320,107	62,024	382,131	42.44
National Gas and Oil Co.	13,518	1,448	14,966	1.66
Ohio Gas Co.	7,285	60	7,345	0.82
River Gas Co.	4,401	0	4,401	0.49
West Ohio Gas Co.	13,392	0	13,392	1.48
Total Eight Major Utilities	822,032	63,532	885,564	98.34
Total Small Utilities	7,992	0	7,992	.89
Municipal Utilities	6,952	0	6,952	.77
TOTAL ALL UTILITIES	836,976	63,532	900,508	100.00

Source: ODOE Form SG-2 and SG-4.

Table 9. Sources of Natural Gas Supplies to the Eight Major Gas Utilities, September 1981 through August 1982 (MMCF)

	Supply	Percent of Total	Rank
Columbia Gas Transmission Corp.	438,532	49.52	1
Consolidated Gas Supply Corp.	208,746	23.57	2
Lawrenceburg Gas	2,560	0.29	8
Michigan/Wisconsin Pipeline Co.	616	0.07	10
Panhandle Eastern Pipeline Co.	74,744	8.44	3
Tennessee Gas Pipeline Co.	1,562	0.18	9
Texas Eastern Transmission Corp.	7,179	0.81	7
Texas Gas Transmission Corp.	277	0.03	11
Green Springs (SNG)	32,637	3.68	6
Storage/Propane[1]	62,862	7.10	4
Other	-388	-0.04	
Total SNG and Out-of-State	829,327	93.65	
Ohio Product	56,241	6.35	5
TOTAL	885,568	100.00	

Note: [1] Gas in storage represents a source during the period under consideration. Figure is elevated because Cincinnati Gas and Electric maintains propane in storage for peak-sharing.

Source: Ohio Department of Energy Form SG-2.

Table 10. Comparison Between One Year of Actual and Forecast Supply For Eight Major Ohio Gas Utilities by Source (MMCF)

MO/YR	COLUMBIA GAS	CONSOLID-ATED GAS	LAWREN-CEBURG	MICH. WISC.	PANHANDLE EAST	TENN. GAS	TEXAS EASTERN	TEXAS GAS	EMERG GAS	OHIO PRODUCT	SNG	STORAGE/ PROPANE	OTHER	TOTAL SUPPLIES
9/82	20146	13655	255	35	6402	150	620	10	0	4765	1786	165	-70	47919
9/81	19122	13002	237	49	5836	127	626	7	0	4959	1539	173	-79	45598
	5.4%	5.0%	7.6%	-28.6%	9.7%	18.1%	-1.0%	42.9%	0.0%	-3.9%	16.0%	-4.6%	11.4%	5.1%
10/82	31020	20011	264	71	6899	150	620	15	0	4772	2451	170	-70	66373
10/81	30064	20208	246	103	6359	156	685	15	0	4942	2112	230	-112	65008
	3.2%	-1.0%	7.3%	-31.1%	8.5%	-3.8%	-9.5%	0.0%	0.0%	-3.4%	16.1%	-26.1%	37.5%	2.1%
11/82	42881	11685	218	80	6160	150	600	31	0	4761	3353	11469	-90	81298
11/81	41285	11787	216	57	6214	143	585	29	0	4858	3125	9988	-79	78208
	3.9%	-0.9%	0.9%	40.4%	-0.9%	4.9%	2.6%	6.9%	0.0%	-2.0%	7.3%	14.8%	-13.9%	4.0%
12/82	60331	19253	163	83	6603	150	620	45	0	4822	4409	14952	-63	111368
12/81	60731	19245	157	60	6688	127	650	45	0	4845	4104	14495	-246	110901
	-0.7%	0.0%	3.8%	38.3%	-1.3%	18.1%	-4.6%	0.0%	0.0%	-0.5%	7.4%	3.2%	74.4%	0.4%
1/83	67752	20928	138	92	6630	150	620	48	0	4802	4713	17929	-60	123742
1/82	77590	31212	120	136	6983	152	614	57	0	4517	4384	16792	-71	142486
	-12.7%	-32.9%	15.0%	-32.4%	-5.1%	-1.3%	1.0%	-15.8%	0.0%	6.3%	7.5%	6.8%	15.5%	-13.2%
2/83	59652	21790	117	99	6090	140	540	45	0	4738	4450	11515	20	109196
2/82	62389	25949	115	64	6174	121	561	43	0	4008	4129	10191	50	113794
	-4.4%	-16.0%	1.7%	54.7%	-1.4%	15.7%	-3.7%	4.7%	0.0%	18.2%	7.8%	13.0%	-60.0%	-4.0%
3/83	50023	18912	200	82	6539	150	625	38	0	4598	3964	9355	20	94506
3/82	49365	20105	193	55	6584	136	634	32	0	4694	3760	9194	271	95023
	1.3%	-5.9%	3.6%	49.1%	-0.7%	10.3%	-1.4%	18.8%	0.0%	-2.0%	5.4%	1.8%	-92.6%	-0.5%
4/83	34634	23515	255	67	6127	150	610	21	0	4576	3178	535	10	73678
4/82	37204	24537	236	40	6142	147	585	21	0	4602	2842	990	-43	77303
	-6.9%	-4.2%	8.1%	67.5%	-0.2%	2.0%	4.3%	0.0%	0.0%	-0.6%	11.8%	-46.0%	123.3%	-4.7%
5/83	24693	18951	263	38	6211	150	590	15	0	4552	2320	230	-10	58003
5/82	17243	12295	260	20	5986	135	571	8	0	4570	2076	274	-22	43416
	43.2%	54.1%	1.2%	90.0%	3.8%	11.1%	3.3%	87.5%	0.0%	-0.4%	11.8%	-16.1%	54.5%	33.6%
6/83	18919	13831	255	21	5803	150	570	10	0	4546	1826	165	-60	46036
6/82	15661	11264	257	10	5866	89	571	7	0	4732	1633	162	-42	40210
	20.8%	22.8%	-0.8%	110.0%	-1.1%	68.5%	-0.2%	42.9%	0.0%	-3.9%	11.8%	1.9%	-42.9%	14.5%
7/83	13484	11851	264	20	6144	150	590	9	0	4510	1626	170	-35	38783
7/82	14010	9349	267	7	5946	113	561	6	0	4725	1454	204	38	36680
	-3.8%	26.8%	-1.1%	185.7%	3.3%	32.7%	5.2%	50.0%	0.0%	-4.6%	11.8%	-16.7%	-192.1%	5.7%
8/83	14880	11590	264	20	6106	150	590	9	0	4548	1500	165	-35	39787
8/82	13868	9793	256	15	5966	116	536	7	0	4789	1479	169	-53	36941
	7.3%	18.3%	3.1%	33.3%	2.3%	29.3%	10.1%	28.6%	0.0%	-5.0%	1.4%	-2.4%	34.0%	7.7%
SUMMER TOTAL														
	157776	113404	1820	272	43692	1050	4190	89	0	32269	14687	1600	-270	370579
	147172	100448	1759	244	42101	883	4135	71	0	33319	13135	2202	-313	345156
	7.2%	12.9%	3.5%	11.5%	3.8%	18.9%	1.3%	25.4%	0.0%	-3.2%	11.8%	-27.3%	13.7%	7.4%
WINTER TOTAL														
	280639	92568	836	436	32022	740	3005	207	0	23721	20889	65220	-173	520110
	291360	108298	801	372	32643	679	3044	206	0	22922	19552	60660	-75	540412
	-3.7%	-14.5%	4.4%	17.2%	-1.9%	9.0%	-1.3%	0.5%	0.0%	3.5%	[illegible]	7.5%	-130.7%	-3.8%
YEAR TOTAL														
	438415	205972	2656	708	75714	1790	7195	296	0	55990	[illegible]	[illegible]	-443	890689
	438532	208746	2560	616	74744	1562	7179	277	0	56241	[illegible]	[illegible]	-388	885568
	-0.0%	-1.3%	3.8%	14.9%	1.3%	14.6%	0.2%	6.9%	0.0%	-0.4%	[illegible]	[illegible]	-14.2%	0.6%

NOTE: (1) WINTER TOTAL IS A SUM OF THE VALUES IN NOVEMBER, DECEMBER, JANUARY, FEBRUARY, AND MARCH.

(2) 999.9% REPRESENTS AN INFINITE PERCENTAGE CHANGE RESULTING FROM AN INCREASE FROM A ZERO VALUE TO SOME NON-ZERO VALUE AND THUS A DIVISION BY ZERO.

Table 11. Weather Sensitivity of Residential Natural Gas Consumption in Ohio (1970-1982)

MMCF/Per Heating Degree-Day

Year	Cincinnati Gas and Electric	Columbia Gas	Dayton Power and Light	East Ohio Gas
1970	6.43	21.64	5.69	22.95
1971	6.96	24.04	6.04	23.57
1972	6.95	23.81	5.77	24.22
1973	6.78	23.68	5.72	23.04
1974	6.78	23.35	5.58	24.21
1975	6.83	22.73	5.61	24.34
1976	6.34	21.22	5.04	22.52
1977	5.15	18.95	4.79	20.44
1978	5.11	18.00	4.54	19.74
1979	5.10	18.48	4.53	20.68
1980	4.77	17.91	4.28	19.26
1981	4.82	17.45	4.22	18.73
1982[a]	5.33[b]	17.18	4.11	19.38

Note: [1] Based on first seven months of 1982.

Source: Ohio State University Gas Model, monthly reports of four Ohio gas utilities and the Ohio Department of Energy.

Table 12. Ohio Natural Gas Prices in Current Dollars, 1970-1980
($ Per MMBtu)

Year	Residential	Commercial	Industrial
1970	0.84	0.73	0.52
1971	0.96	0.81	0.56
1972	1.02	0.86	0.62
1973	1.08	0.94	0.65
1974	1.23	1.07	0.85
1975	1.51	1.35	1.12
1976	1.79	1.63	1.43
1977	2.23	2.07	1.95
1978	2.43	2.24	2.05
1979	2.78	2.57	2.32
1980	3.45	3.23	2.97
1981	3.87	3.55	3.41

Note: Figures for 1981 are ODOE estimates. Prices in 1982 are dramatically higher as a result of gas deregulation.

Source: American Gas Association, Gas Facts, and the Ohio Department of Energy.

Table 13. Ohio Natural Gas Prices in Constant Dollars, 1970-1980
(Dollars per MMBtu)
(1967 = 100)

Year	Residential	Commercial	Industrial
1970	.72	.63	.45
1971	.78	.67	.47
1972	.81	.69	.49
1973	.81	.71	.46
1974	.83	.72	.58
1975	.94	.84	.69
1976	1.05	.96	.84
1977	1.23	1.14	1.07
1978	1.24	1.15	1.05
1979	1.28	1.18	1.07
1980	1.40	1.31	1.20
1981	1.42	1.34	1.25

Note: All prices are stated in terms of 1967 dollars. Figures for 1981 are ODOE estimates.

Source: American Gas Association, Gas Facts, 1980, U.S. Department of Commerce, Survey of Current Business, April 1982.

Table 14. Integrated Time Path Models of Ohio Sectoral Natural Gas Requirements

```
MODEL:    RS
DEP VAR: NGRSBOH

                            PARAMETER       STANDARD                          APPROX                VARIABLE
VARIABLE          DF         ESTIMATE          ERROR         T RATIO       PROB>|T|                  LABEL

INTERCEPT          1       377.536043       3.088721        122.2305         0.0001
T                  1        10.512316       0.453848         23.1626         0.0001
T10                1       -19.030983       0.780816        -24.3732         0.0001
D72                1        33.284971       4.205672          7.9143         0.0001
D7879              1        16.530075       3.519308          4.6970         0.0002
---------------------------------------------------------------------------------

MODEL:    CX
DEP VAR: NGCXBOH

                            PARAMETER       STANDARD                          APPROX                VARIABLE
VARIABLE          DF         ESTIMATE          ERROR         T RATIO       PROB>|T|                  LABEL

INTERCEPT          1       107.411774       1.730246         62.0789         0.0001
T                  1        10.499702       0.276837         37.9273         0.0001
DUMC               1       -24.680039       2.047537        -12.0535         0.0001
T12                1       -15.194288       0.507964        -29.9121         0.0001
D75                1       -18.979425       2.577284         -7.3641         0.0001
D77                1       -18.031006       2.924993         -6.1645         0.0001
---------------------------------------------------------------------------------

MODEL:    IX
DEP VAR: NGIXBOH

                            PARAMETER       STANDARD                          APPROX                VARIABLE
VARIABLE          DF         ESTIMATE          ERROR         T RATIO       PROB>|T|                  LABEL

INTERCEPT          1       221.539364       3.983331         55.6166         0.0001
T                  1        11.099149       1.291768          8.5922         0.0001
T3                 1        24.680039       2.271539         10.8649         0.0001
T6                 1       -29.084175       2.215156        -13.1296         0.0001
T10                1        24.168378       0.972484         24.8522         0.0001
T12                1       -37.451528       1.628333        -22.9999         0.0001
DUM9               1       -76.544052       6.384370        -11.9893         0.0001
D77                1       -55.652702       6.563217         -8.4795         0.0001
D79                1        25.013963       5.721586          4.3719         0.0008
---------------------------------------------------------------------------------

MODEL:    OX
DEP VAR: NGOXBOH

                            PARAMETER       STANDARD                          APPROX                VARIABLE
VARIABLE          DF         ESTIMATE          ERROR         T RATIO       PROB>|T|                  LABEL

INTERCEPT          1        10.681714       0.872195         12.2469         0.0001
T                  1         0.863376       0.221170          3.9037         0.0011
T6                 1         3.602750       0.439816          8.1915         0.0001
```

Table T4. Integrated Time Path Models of Ohio Sectoral Natural Gas Requirements (Continued)

```
                          PARAMETER       STANDARD                     APPROX           VARIABLE
VARIABLE         DF       ESTIMATE          ERROR        T RATIO      PROB>|T|           LABEL

T10               1      -5.137394       0.389489       -13.1901        0.0001
DUM9              1     -15.040200       1.463192       -10.2790        0.0001
------------------------------------------------------------------------------

MODEL:    TT
DEP VAR: NGTTBOH

                          PARAMETER       STANDARD                     APPROX           VARIABLE
VARIABLE         DF       ESTIMATE          ERROR        T RATIO      PROB>|T|           LABEL

INTERCEPT         1     717.168895       4.313958       166.2438        0.0001
T                 1      32.974544       1.264980        26.0673        0.0001
T4                1      24.680039       2.469423         9.9943        0.0001
T6                1     -25.481425       2.492416       -10.2236        0.0001
D72               1      33.284971       5.228337         6.3663        0.0001
T12               1     -52.645816       1.580652       -33.3064        0.0001
DUM9              1     -91.584252       7.487921       -12.2309        0.0001
D75               1     -18.979425       3.108321        -6.1060        0.0001
D77               1     -73.683708       5.972449       -12.3373        0.0001
D79               1      25.013963       6.220019         4.0215        0.0020
D7879             1      16.530075       4.375074         3.7782        0.0031
```

Table 14-A. (Statistical Summary) Integrated Time Path Models of Ohio Sectoral Natural Gas Requirements

```
                                        COVARIANCE ACROSS MODELS

                         RS.NGRSBOH     CX.NGCXBOH     IX.NGIXBOH     OX.NGOXBOH     TT.NGTTBOH

RS.NGRSBOH              25.69265876    -8.55416313    -7.22324186    -0.93335727    10.27009912
CX.NGCXBOH              -8.55416313     8.49432485    -3.94093458     0.39206602    -4.97012441
IX.NGIXBOH              -7.22324186    -3.94093458    23.97601631     1.38768609    13.10568751
OX.NGOXBOH              -0.93335727     0.39206602     1.38768609     1.54560331     1.17427170
TT.NGTTBOH              10.27009912    -4.97012441    13.10568751     1.17427170    24.00711653

                                        CORRELATION ACROSS MODELS

                         RS.NGRSBOH     CX.NGCXBOH     IX.NGIXBOH     OX.NGOXBOH     TT.NGTTBOH

RS.NGRSBOH               1.00000000    -0.57904001    -0.29103091    -0.14811341     0.41352342
CX.NGCXBOH              -0.57904001     1.00000000    -0.27615078     0.10820461    -0.34804294
IX.NGIXBOH              -0.29103091    -0.27615078     1.00000000     0.22795740     0.54626238
OX.NGOXBOH              -0.14811341     0.10820461     0.22795740     1.00000000     0.19277450
TT.NGTTBOH               0.41352342    -0.34804294     0.54626238     0.19277450     1.00000000

                                        INV CORRELATION ACROSS MODELS

                         RS.NGRSBOH     CX.NGCXBOH     IX.NGIXBOH     OX.NGOXBOH     TT.NGTTBOH

RS.NGRSBOH               6.20855108     3.52167715     4.97214882     0.19453651    -4.09528595
CX.NGCXBOH               3.52167715     3.20266182     3.01070780    -0.13330007    -1.96057171
IX.NGIXBOH               4.97214882     3.01070780     5.46982180    -0.06839266    -3.98301793
OX.NGOXBOH               0.19453651    -0.13330007    -0.06839266     1.11760969    -0.30492586
TT.NGTTBOH              -4.09528595    -1.96057171    -3.98301793    -0.30492586     4.24568831

                                        INV COVARIANCE ACROSS MODELS

                         RS.NGRSBOH     CX.NGCXBOH     IX.NGIXBOH     OX.NGOXBOH     TT.NGTTBOH

RS.NGRSBOH               0.24164689     0.23838591     0.20033235     0.03087078    -0.16489584
CX.NGCXBOH               0.23838591     0.37703548     0.21096755    -0.03678891    -0.13729297
IX.NGIXBOH               0.20033235     0.21096755     0.22813722    -0.01123497    -0.16601745
OX.NGOXBOH               0.03087078    -0.03678891    -0.01123497     0.72308961    -0.05005820
TT.NGTTBOH              -0.16489584    -0.13729297    -0.16601745    -0.05005820     0.17685124


WARNING: DEGREES OF FREEDOM NOT ADJUSTED FOR RESTRICTIONS

WEIGHTED MEAN SQUARE ERROR FOR SYSTEM =     1.122050  WITH      87 DFS

WEIGHTED R-SQUARE FOR SYSTEM = 0.9964
THIS IS THE R-SQUARE THAT CORRESPONDS TO THE APPROXIMATE F TEST ON ALL NON-INTERCEPT PARAMETERS IN THE SYSTEM.
```

Table 15. Independent Forecast of Annual Natural Gas End Use Requirements, Calendar Year 1983
(MMCF)

	Actual* 1981	Lower 95% Confidence Limit	Forecast** 1983	Upper 95% Confidence Limit	Forecast % Change
Residential	369.89	349.62	360.35	371.08	-2.6
Commercial	163.12	150.97	157.14	163.31	-3.7
Industrial	301.72	279.06	289.43	299.8	-4.1
Other*	11.5	8.92	11.56	14.2	0.5
Total	846.23	808.11***	818.48	828.85***	-3.3

Source: Ohio Department of Energy.

*Other includes transportation and electric utilities sectors.

**Industrial forecast is based on the presumption that average unemployment during the rest of 1982 and throughout 1983 will remain above 9%.

***The confidence limits for the total are not equal to the sum of the confidence limits of its components by definition of the statistical concepts involved.

Table 16. Projected Aggregate Supply and Requirements for Natural Gas for Eight Major Utilities, September 1982 - August 1983, (MMCF)

Month/ Year	9/82	10/82	11/82	12/82	1/83	2/83	3/83	4/83	5/83	6/83	7/83	8/83	Summer Totals	Winter Totals	Annual Totals
Supply	47,919	66,373	81,298	111,368	123,742	109,196	94,506	73,678	58,003	46,036	38,783	39,787	370,579	520,110	890,689
Demand	46,932	65,283	81,028	110,973	123,407	109,067	94,131	72,702	57,878	45,947	38,632	39,627	367,001	518,606	885,607
Deficiency	-987	-1,090	-270	-395	-335	-129	-375	-976	-125	-89	-151	-160	-3,578	-1,504	-5,082
Percent Deficiency	-2.1	-1.7	-0.3	-0.4	-0.3	-0.1	-0.4	-1.3	-0.2	-0.2	-0.4	-0.4	-1.0	-0.3	-0.6

Note: A positive deficiency indicates a shortage; a negative deficiency indicates a surplus.

Source: ODOE Form SG-1 of eight major gas utilities and the Ohio Department of Energy.

Table 17. Comparison Between One Year of Actual and Forecast Demand For Eight Major Ohio Gas Utilities by Sector (MMCF)

MONTH/YEAR	DEGREE DAYS	RESIDENTIAL REQUIREMENT	COMMERCIAL REQUIREMENT	INDUSTRIAL REQUIREMENT	OTHER REQUIREMENT	STORAGE (IN)	TOTAL REQUIREMENT	DEFICIENCY
9/82	87	8973	4191	22550	2758	8460	46932	-987
9/81	87	9085	4279	20435	3302	8417	45598	0
	0.0%	-1.2%	-2.1%	10.3%	-18.5%	0.5%	2.9%	999.9%
10/82	334	15971	6839	24962	10678	6833	65283	-1090
10/81	334	18605	7818	22316	8846	7423	65008	0
	0.0%	-14.2%	-12.5%	11.9%	20.7%	-7.9%	0.4%	999.9%
11/82	690	30277	13110	24956	12685	0	81028	-270
11/81	686	28567	12342	23029	14009	261	78208	0
	0.6%	6.0%	6.2%	8.4%	-9.5%	-100.0%	3.6%	999.9%
12/82	1052	50665	21717	27676	10915	0	110973	-395
12/81	1028	49705	21544	25308	14344	0	110901	0
	2.3%	1.9%	0.8%	9.4%	-23.9%	0.0%	0.1%	999.9%
1/83	1141	60981	25915	28897	6288	1326	123407	-335
1/82	1124	69255	29551	29039	14441	200	142486	0
	1.5%	-11.9%	-12.3%	-0.5%	-56.5%	563.0%	-13.4%	999.9%
2/83	980	58789	25410	28023	-4481	1326	109067	-129
2/82	977	67151	29093	28676	-11133	7	113794	0
	0.3%	-12.5%	-12.7%	-2.3%	59.8%	18842.9%	-4.2%	999.9%
3/83	823	50532	21921	27004	-5326	0	94131	-375
3/82	814	51411	22342	25915	-4647	3	95023	0
	1.1%	-1.7%	-1.9%	4.2%	-14.6%	-100.0%	-0.9%	999.9%
4/83	735	34373	14985	24113	-8370	8253	72702	-976
4/82	455	39529	16575	22051	-8727	7874	77302	-1
	61.5%	-13.0%	-9.6%	9.4%	4.1%	4.8%	-6.0%	*******%
5/83	202	20001	8819	22502	-4084	10640	57878	-125
5/82	196	16622	6910	17575	-7980	10289	43416	0
	3.1%	20.3%	27.6%	28.0%	48.8%	3.4%	33.3%	999.9%
6/83	30	11444	5241	21597	-2372	10037	45947	-89
6/82	29	9695	4225	16664	-145	9771	40210	0
	3.4%	18.0%	24.0%	29.6%	-1535.9%	2.7%	14.3%	999.9%
7/83	5	7818	3927	16801	246	9840	38632	-151
7/82	5	8247	3869	14382	397	9782	36677	-3
	0.0%	-5.2%	1.5%	16.8%	-38.0%	0.6%	5.3%	-4933.3%
8/83	11	7544	3793	17512	1579	9199	39627	-160
8/82	11	7554	3615	14904	1363	9505	36941	0
	0.0%	-0.1%	4.9%	17.5%	15.8%	-3.2%	7.3%	999.9%
SUMMER TOTAL	1404	106124	47795	150037	435	63262	367001	-3578
	1117	109337	47291	128327	-2864	63061	345152	-4
	25.7%	-2.9%	1.1%	16.9%	115.2%	0.3%	6.3%	*******%
WINTER TOTAL	4686	251244	108073	136556	20081	2652	518606	-1504
	4629	266089	114872	131967	27014	471	540412	0
	1.2%	-5.6%	-5.9%	3.5%	-25.7%	463.1%	-4.0%	999.9%
YEAR TOTAL	6090	357368	155868	286593	20516	65914	885607	-5082
	5746	375426	162163	260294	24150	63532	885564	-4
	6.0%	-4.8%	-3.9%	10.1%	-15.0%	3.7%	0.0%	*******%

NOTE: (1) WINTER TOTAL IS A SUM OF THE VALUES IN NOVEMBER, DECEMBER, JANUARY, FEBRUARY, AND MARCH

(2) 999.9% REPRESENTS AN INFINITE PERCENTAGE CHANGE RESULTING FROM AN INCREASE FROM A ZERO VALUE TO SOME NON-ZERO VALUE AND THUS A DIVISION BY ZERO.

(3) A POSITIVE DEFICIENCY INDICATES SHORTAGE, A NEGATIVE DEFICIENCY INDICATES SURPLUS.

Table 18. Independent Forecasts of Gas Supply and Demand for The Eight Major Ohio Gas Utilities
November 1982 - March 1983
(MMCF)

	Normal Weather			10% Colder Than Normal Weather		
	Supply	Demand	Surplus (Deficiency)[1]	Supply	Demand	Surplus (Deficiency)[1]
Cincinnati Gas & Electric	51,429	59,235	(7,806)	55,235	63,618	(8,383)
Columbia Gas	186,164	203,113	(16,949)	198,077	216,646	(18,569)
Dayton Power & Light	37,448	40,952	(3,504)	40,246	43,636	(3,390)
East Ohio Gas	200,000	214,715	(14,715)	211,471	227,019	(15,548)
National Gas	7,125	5,361	1,764	7,125	5,736	1,389
Ohio Gas	4,649.7	4,649.7	-0-	4,997.7	4,997.7	-0-
River Gas	2,875	2,875	-0-	3,030	3,030	-0-
West Ohio Gas	7,739	7,739	-0-	8,246	8,246	-0-
Total	497,429.7	538,639.7	(41,210)	528,427.7	572,928.7	(44,501)

Note: [1] Numbers within parentheses indicate deficiency. Columbia Gas Transmission Corp. and East Ohio Gas estimate there to be over 764,000 MMCF in storage to meet any deficiencies.

Source: November 1982 ODOE Form SG-2 of reporting utilities, and the Ohio Department of Energy.

Table 19. Independent Forecasts of Gas Supply and Demand for Cincinnati Gas and Electric Company

November 1982 - March 1983

(MMCF)

	Normal Weather				10% Colder Than Normal Weather			
	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]
November 1982	7,364	638	8,179	(815)	7,925	702	8,737	(812)
December 1982	10,705	951	12,387	(1,682)	11,542	1,046	13,331	(1,789)
January 1983	12,576	1,110	14,401	(1,825)	13,553	1,221	15,518	(1,965)
February 1983	11,418	912	13,157	(1,739)	12,221	1,003	14,140	(1,919)
March 1983	9,366	714	11,111	(1,745)	9,994	785	11,892	(1,898)
Total[1]	51,429		59,235	(7,806)	55,235		63,618	(8,383)

Notes: [1] Totals may not add due to independent rounding.
[2] HDD - Heating Degree-Days.
[3] Numbers within parentheses indicate deficiency. Projected deficiency levels can be met with gas in storage.

Source: Cincinnati Gas & Electric's November 1982 ODOE Form SG-2, and the Ohio Department of Energy.

Table 20. Independent Forecasts of Gas Supply and Demand for Columbia Gas of Ohio
November 1982 - March 1983
(MMCF)

	Normal Weather				10% Colder Than Normal Weather			
	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]
November 1982	29,027	570	30,161	(1,134)	30,351	627	31,810	(1,459)
December 1982	40,610	951	41,500	(890)	42,997	1,046	44,270	(1,273)
January 1983	46,490	1,173	51,080	(4,590)	49,489	1,290	54,712	(5,223)
February 1983	38,223	1,102	43,892	(5,669)	41,078	1,212	46,960	(5,882)
March 1983	31,814	918	36,480	(4,666)	34,162	1,010	38,894	(4,732)
Total[1]	186,164		203,113	(16,949)	198,077		216,646	(18,569)

Notes: [1] Totals may not add due to independent rounding.
[2] HDD - Heating Degree-Days.
[3] Numbers within parentheses indicate deficiency. Projected deficiency levels can be met with gas in storage.

Source: Columbia Gas of Ohio's November 1982 ODOE Form SG-2, and the Ohio Department of Energy.

Table 21. Independent Forecasts of Gas Supply and Demand for Dayton Power & Light Company
November 1982 - March 1983
(MMCF)

	Normal Weather				10% Colder Than Normal Weather			
	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]
November 1982	5,427	495	5,285	142	5,752	545	5,637	115
December 1982	7,451	868	8,020	(569)	8,023	955	8,351	(328)
January 1983	8,728	1,127	10,424	(1,696)	9,401	1,240	11,030	(1,629)
February 1983	8,992	1,109	10,004	(1,012)	9,662	1,220	10,835	(1,173)
March 1983	6,850	931	7,219	(369)	7,408	1,024	7,783	(375)
Total[1]	37,448		40,952	(3,504)	40,246		43,636	(3,390)

Notes: [1] Totals may not add due to independent rounding.
[2] HDD - Heating Degree-Days.
[3] Numbers within parentheses indicate deficiency. Projected deficiency levels can be met with gas in storage.

Source: Dayton Power & Light Company's November 1982 ODOE Form SG-2, and the Ohio Department of Energy.

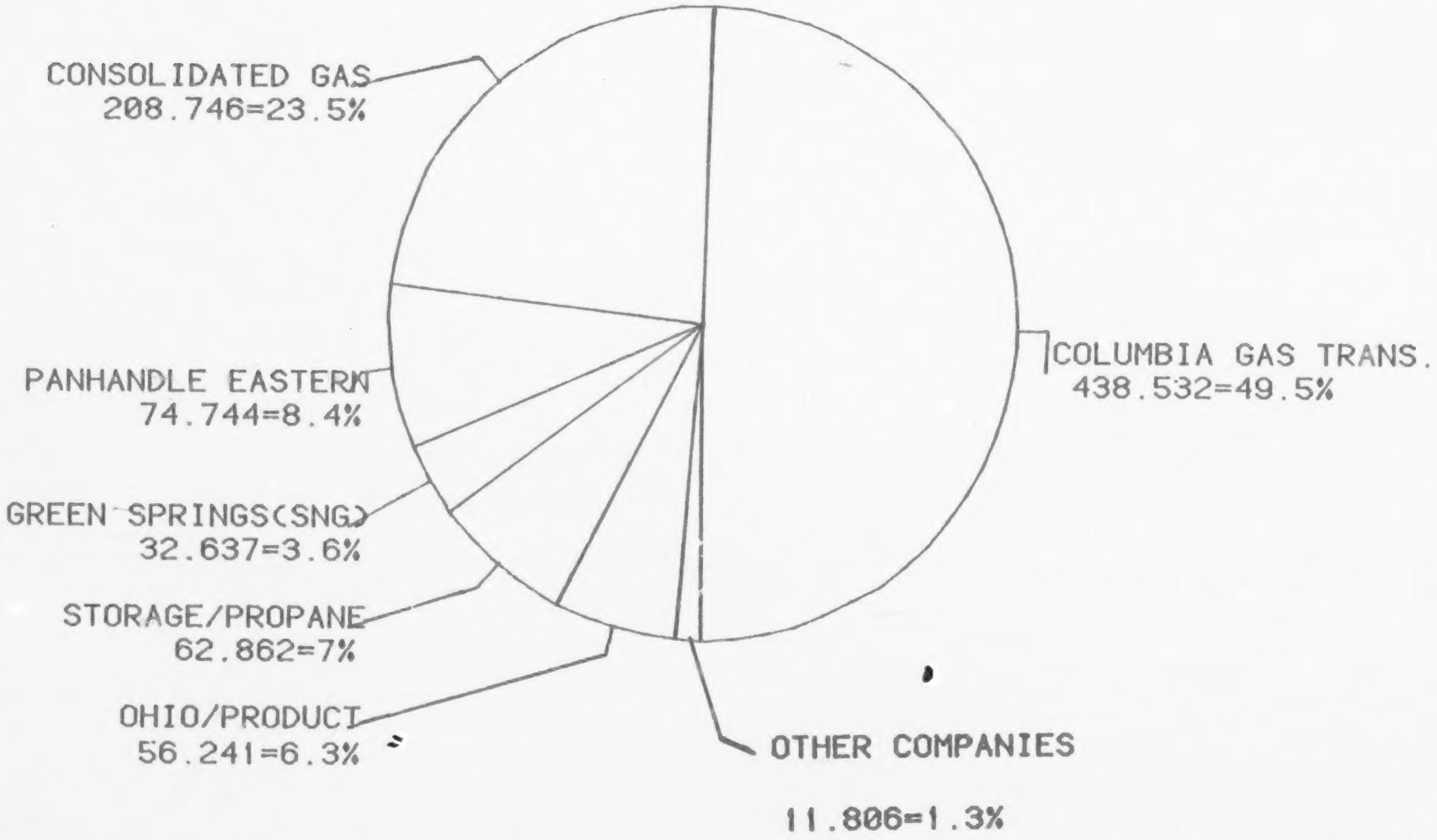
Table 22. Independent Forecasts of Gas Supply and Demand for East Ohio Gas Company
November 1982 - March 1983
(MMCF)

	Normal Weather				10% Colder Than Normal Weather			
	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]
November 1982	31,030	534	32,463	(1,433)	32,673	587	33,618	(945)
December 1982	41,895	983	44,219	(2,324)	44,455	1,081	46,456	(2,001)
January 1983	47,299	1,197	53,595	(6,296)	50,116	1,317	56,585	(6,469)
February 1983	42,429	1,155	45,891	(3,462)	44,825	1,271	49,893	(5,068)
March 1983	37,347	954	38,547	(1,200)	39,402	1,049	40,467	(1,065)
Total[1]	200,000		214,715	(14,715)	211,471		227,019	(15,548)

Notes: [1] Totals may not add due to independent rounding.
[2] HDD - Heating Degree-Days
[3] Numbers within parentheses indicate deficiency. Projected deficiency levels can be met with gas in storage.

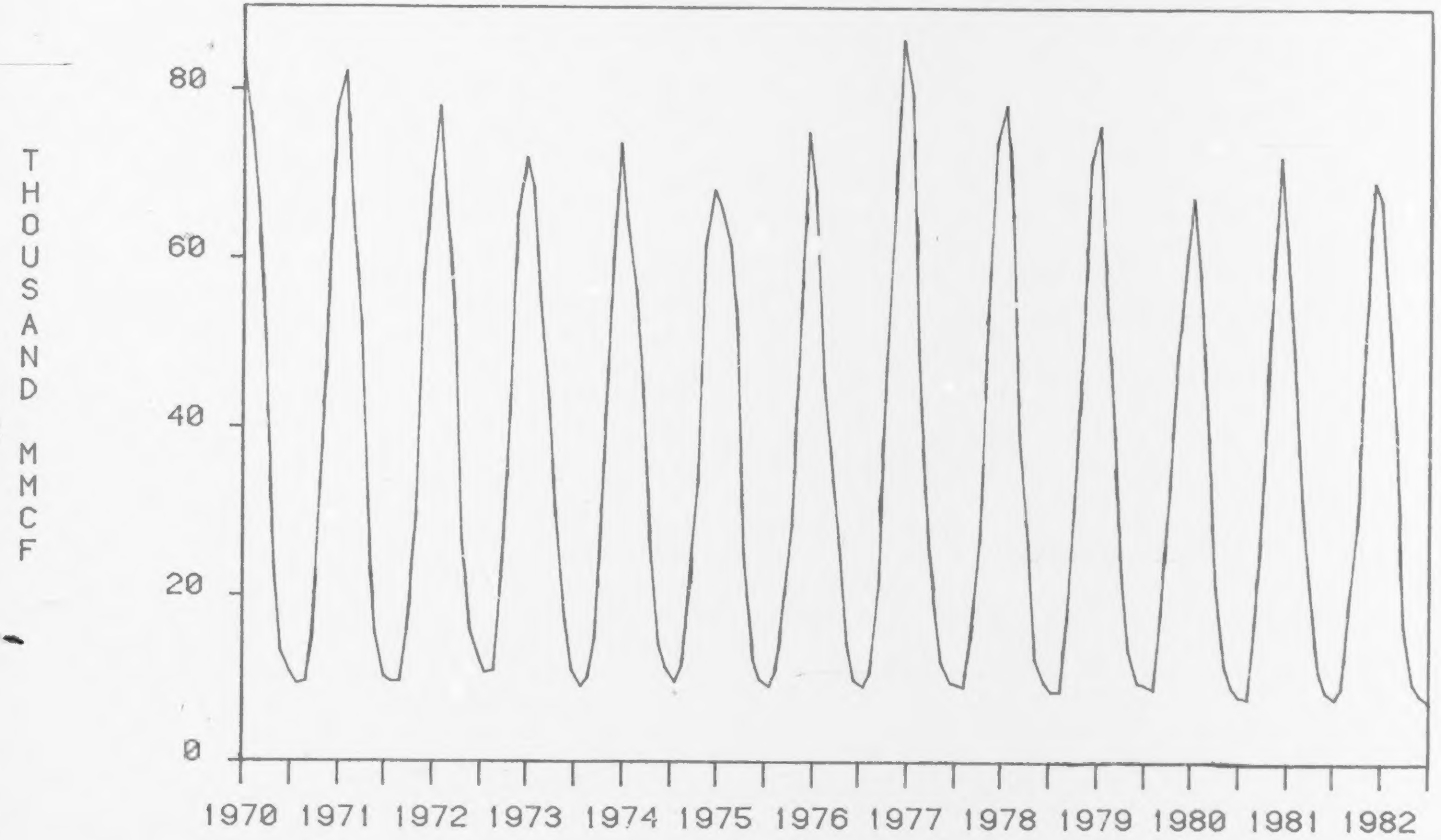
Source: East Ohio Gas Company's November 1982 ODOE Form SG-2, and the Ohio Department of Energy.

FIG. 10. SOURCE OF NATURAL GAS SUPPLY TO THE EIGHT MAJOR OHIO GAS UTILITIES, (SEPTEMBER 1981 - AUGUST 1982)



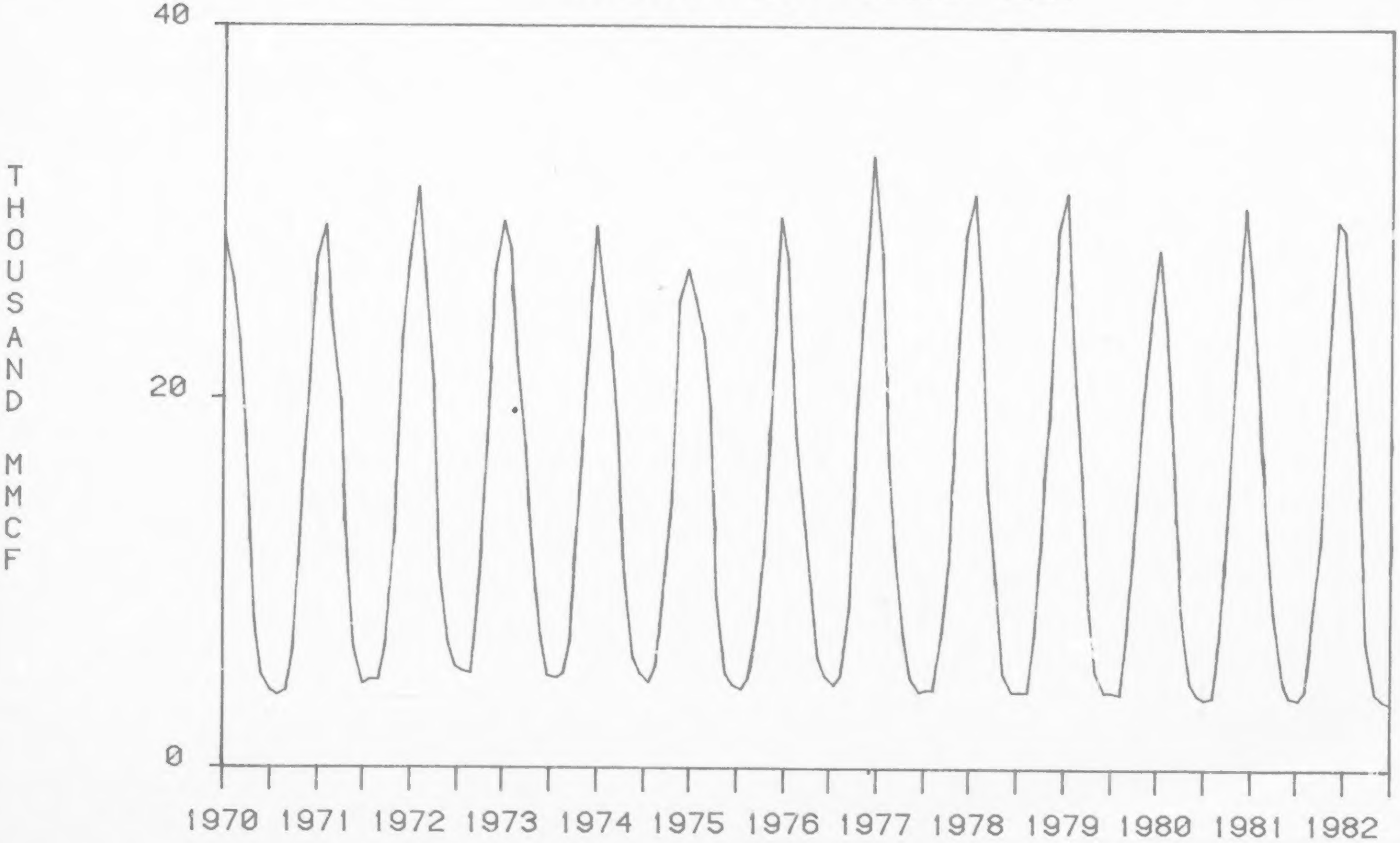
SOURCE: OHIO DEPARTMENT OF ENERGY.

FIG. 11. MONTHLY OHIO RESIDENTIAL NATURAL GAS CONSUMPTION, JANUARY 1970 - AUGUST 1982



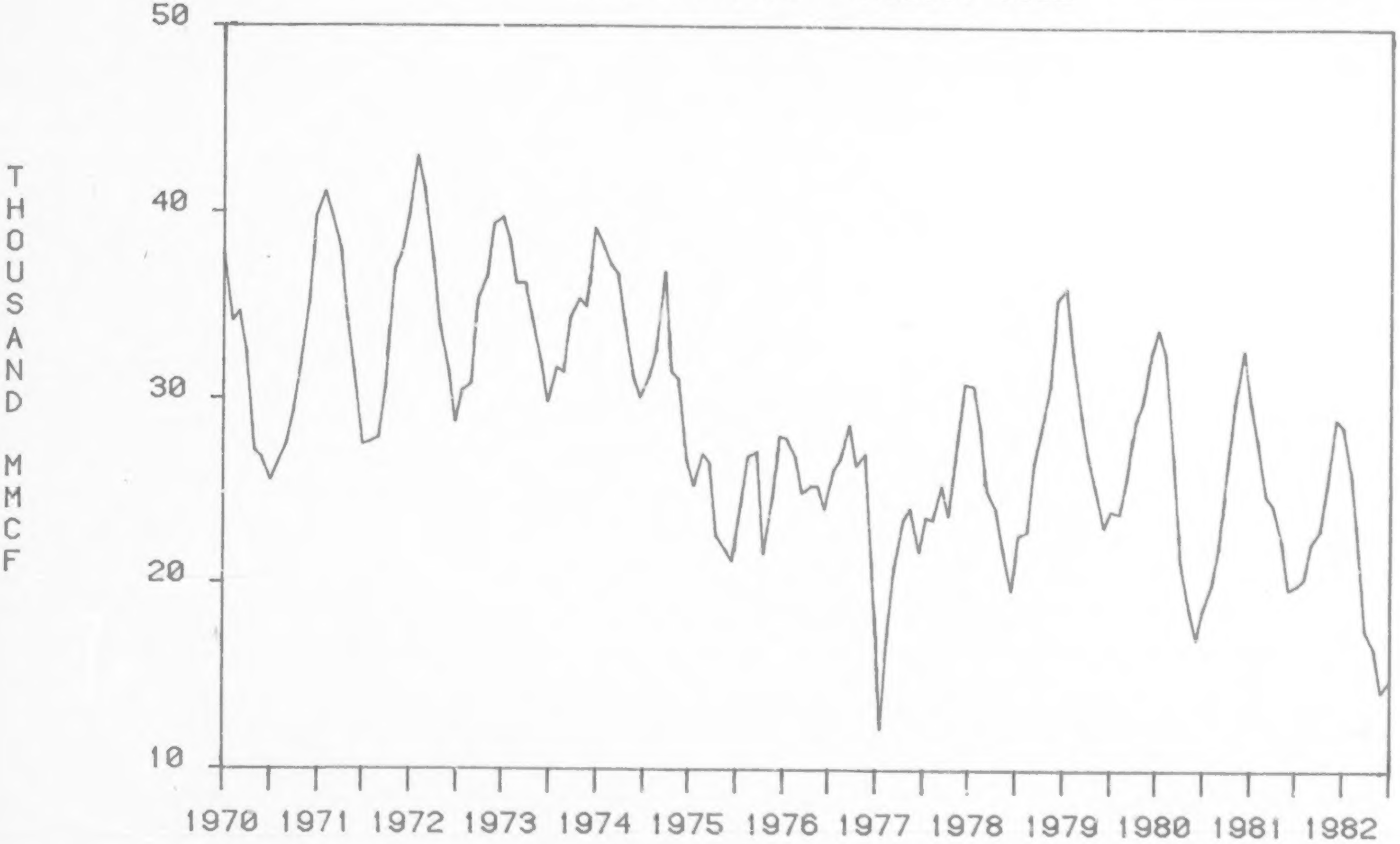
SOURCE: THE OHIO DEPARTMENT OF ENERGY.

FIG. 12. MONTHLY OHIO COMMERCIAL NATURAL GAS CONSUMPTION, JANUARY 1970 - AUGUST 1982



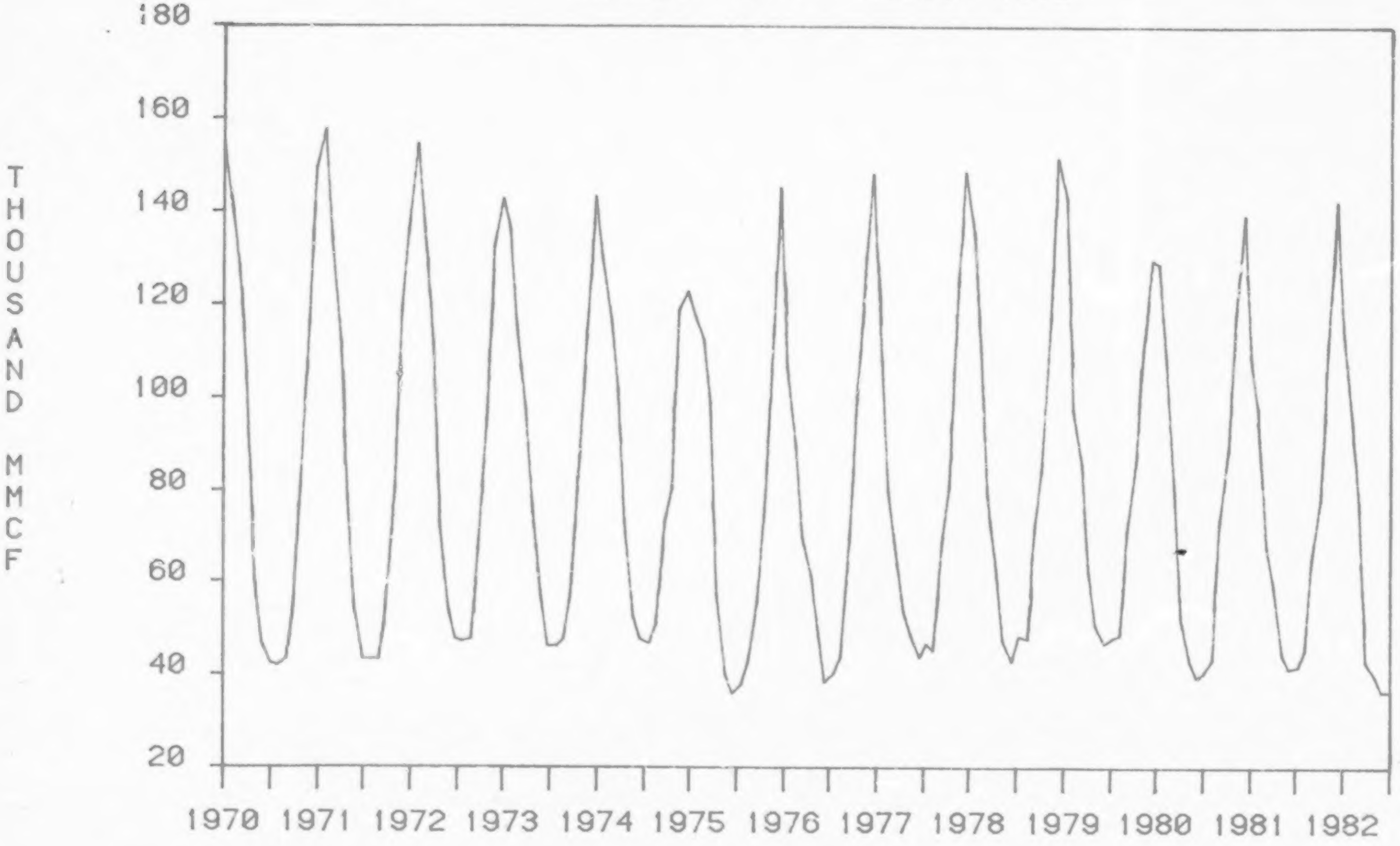
SOURCE: THE OHIO DEPARTMENT OF ENERGY.

FIG. 13. MONTHLY OHIO INDUSTRIAL NATURAL GAS CONSUMPTION, JANUARY 1970 - AUGUST 1982



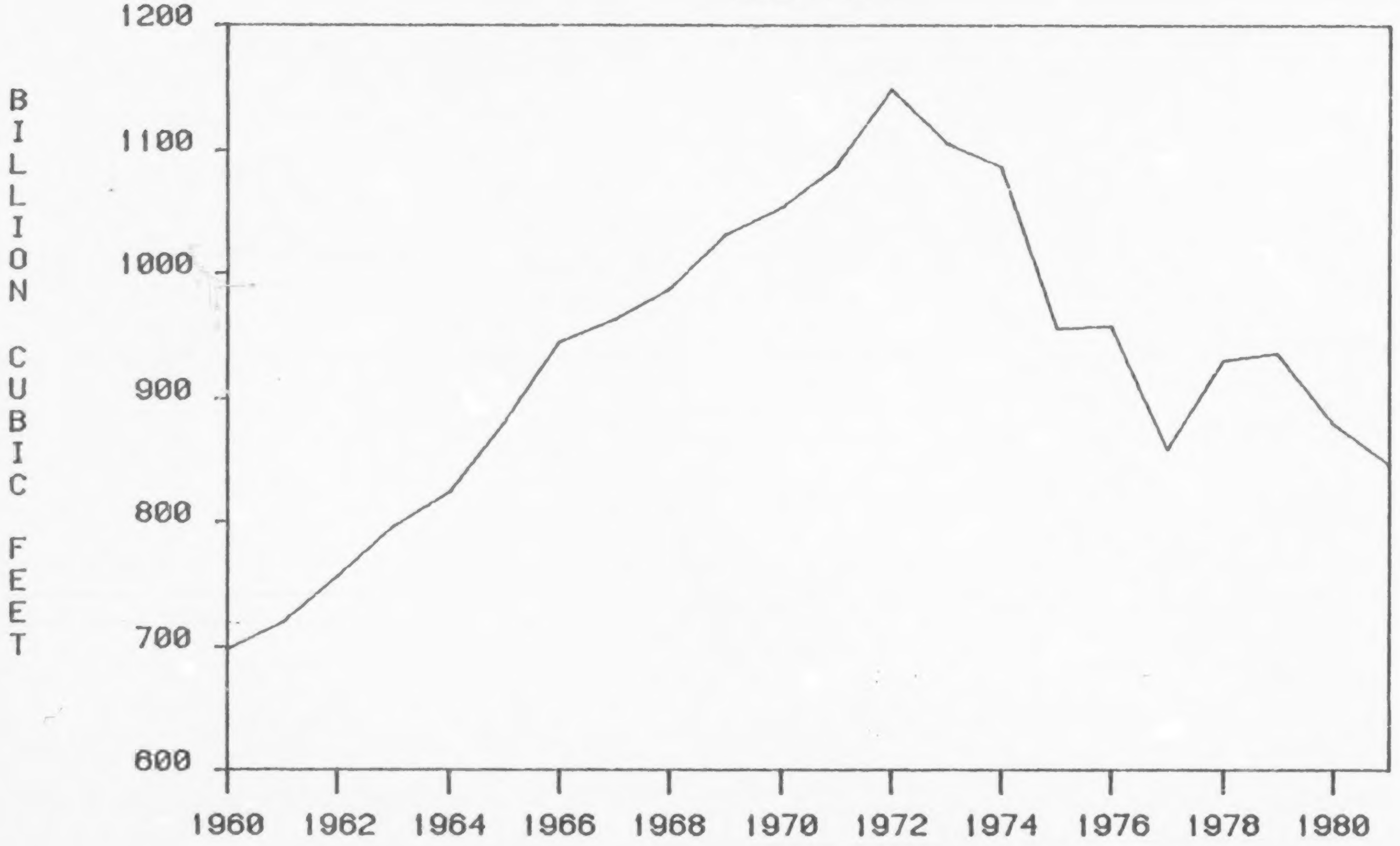
SOURCE: THE OHIO DEPARTMENT OF ENERGY.

FIG. 14. MONTHLY OHIO TOTAL NATURAL GAS CONSUMPTION, JANUARY 1970 - AUGUST 1982



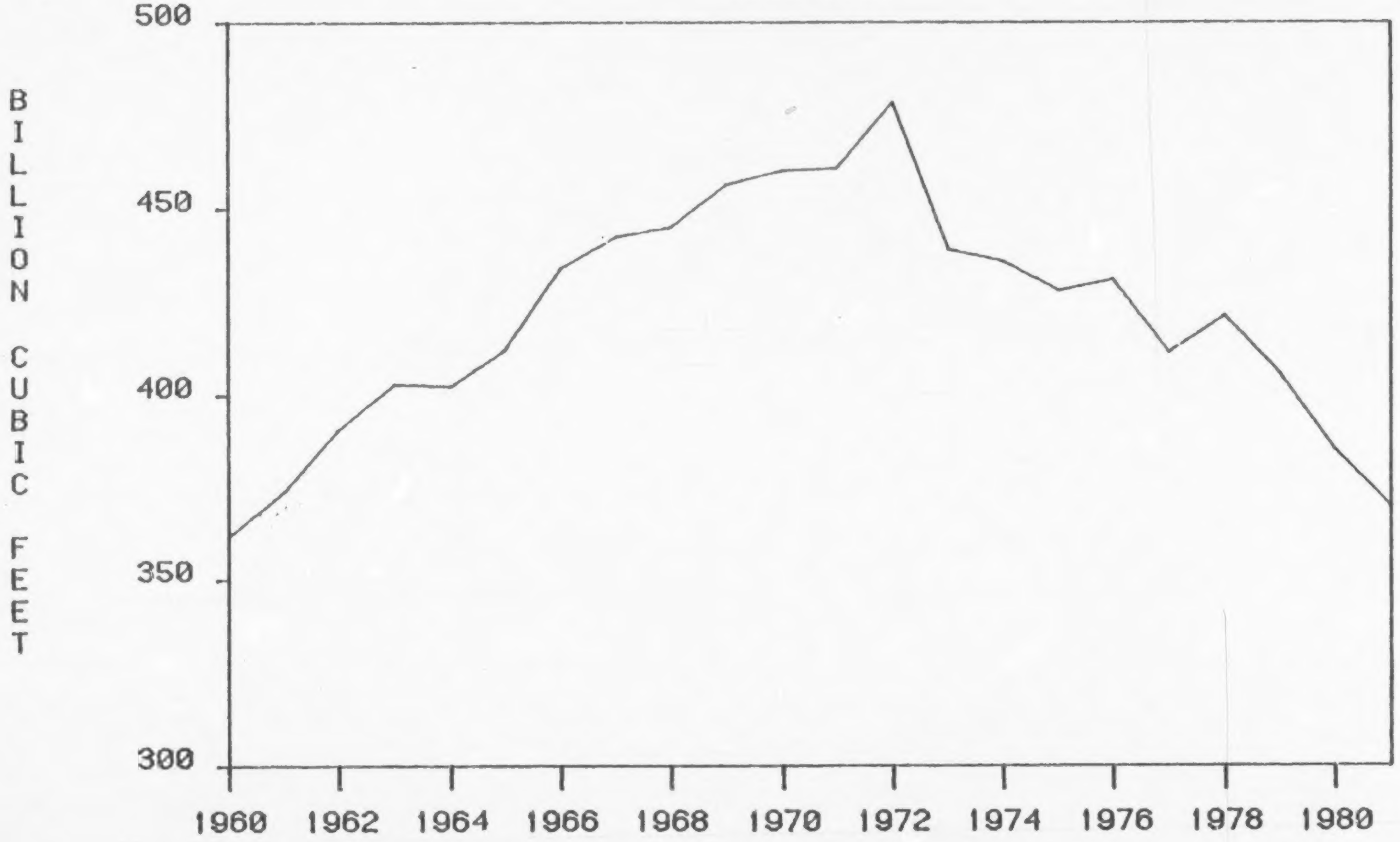
SOURCE: THE OHIO DEPARTMENT OF ENERGY.

FIGURE 15. OHIO TOTAL NATURAL GAS CONSUMPTION, 1960-1981



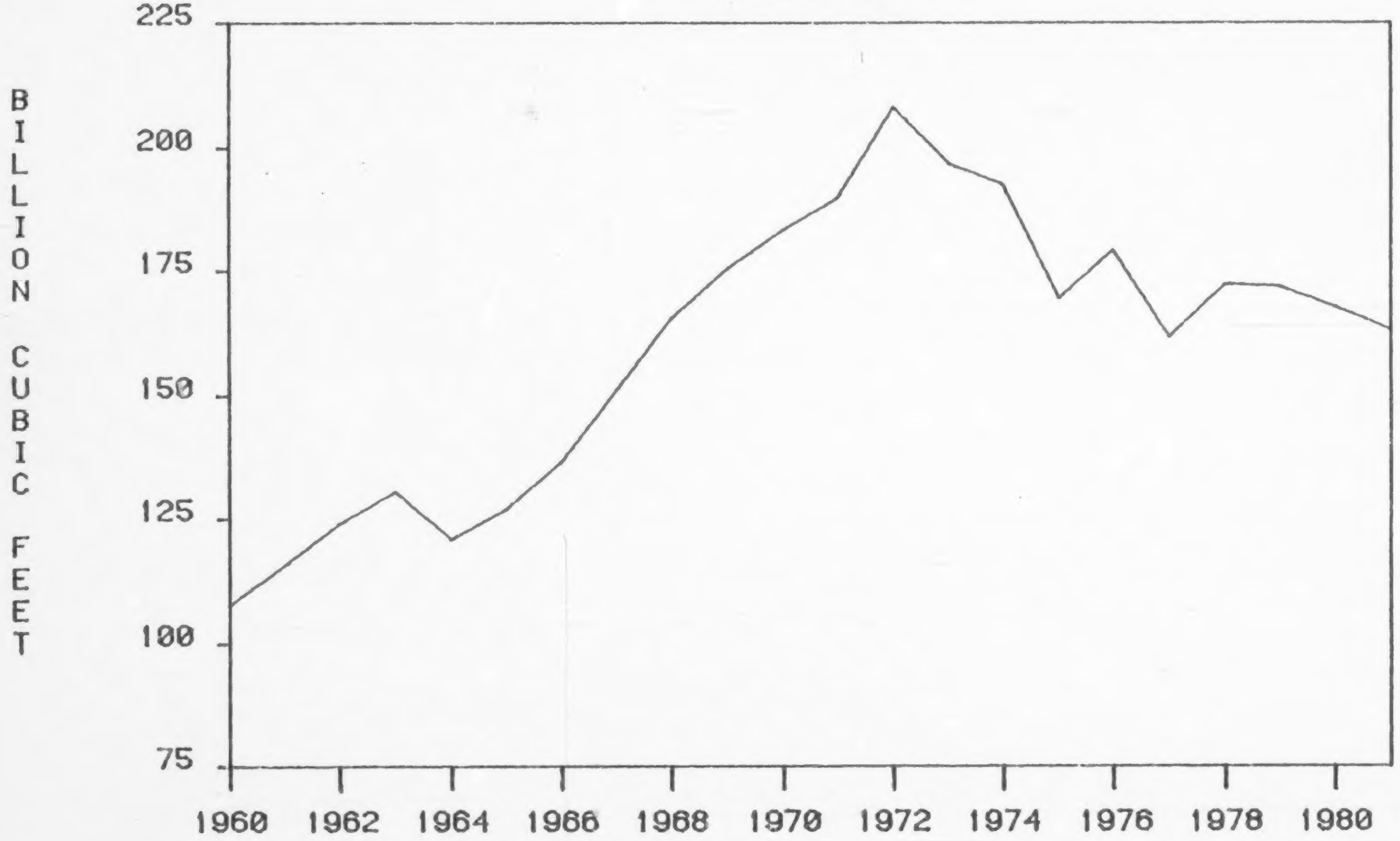
SOURCE: OHIO DEPARTMENT OF ENERGY.

FIGURE 16. OHIO RESIDENTIAL NATURAL GAS CONSUMPTION, 1960-1981



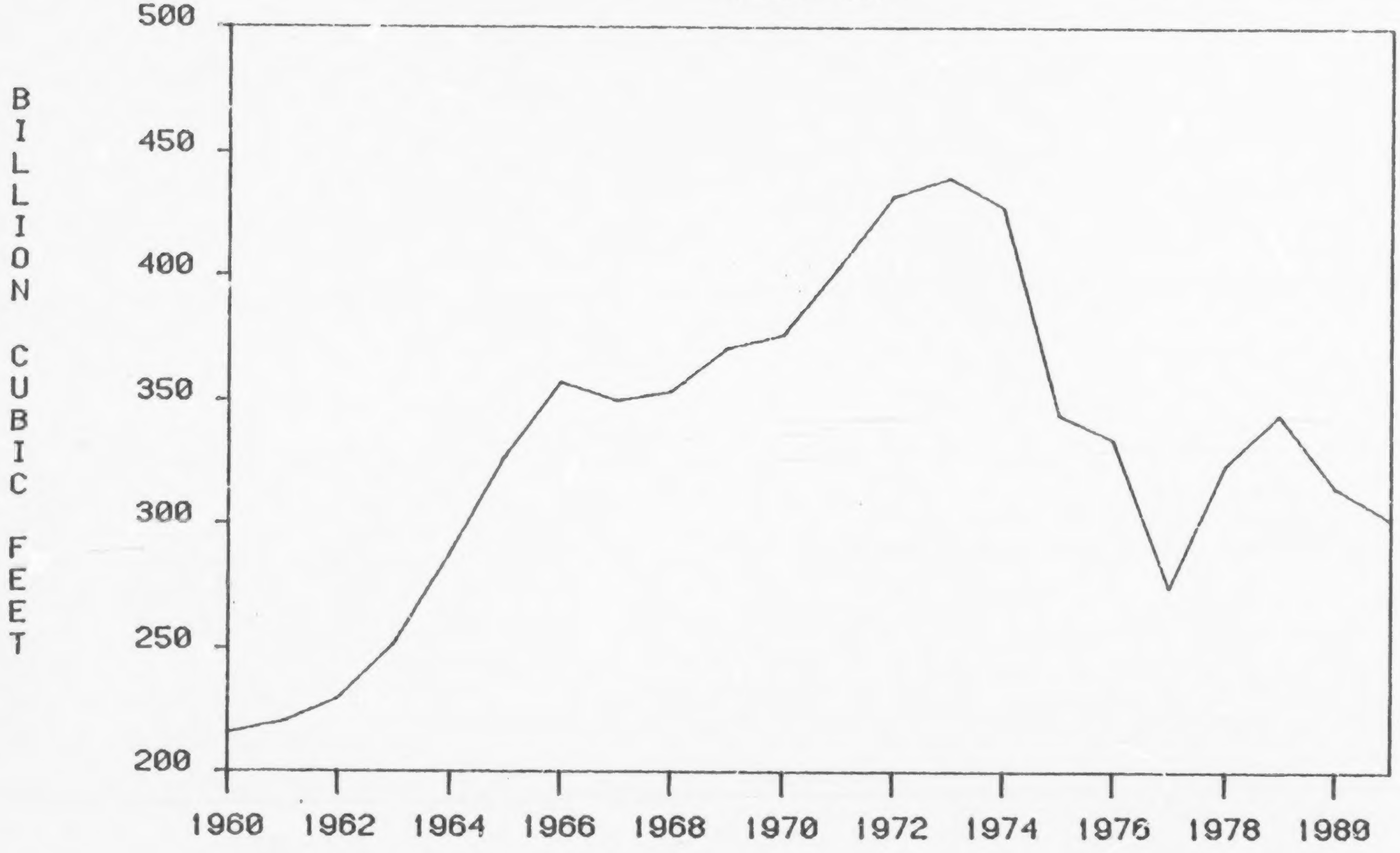
SOURCE: OHIO DEPARTMENT OF ENERGY.

FIGURE 17. OHIO COMMERCIAL NATURAL GAS CONSUMPTION, 1960-1981



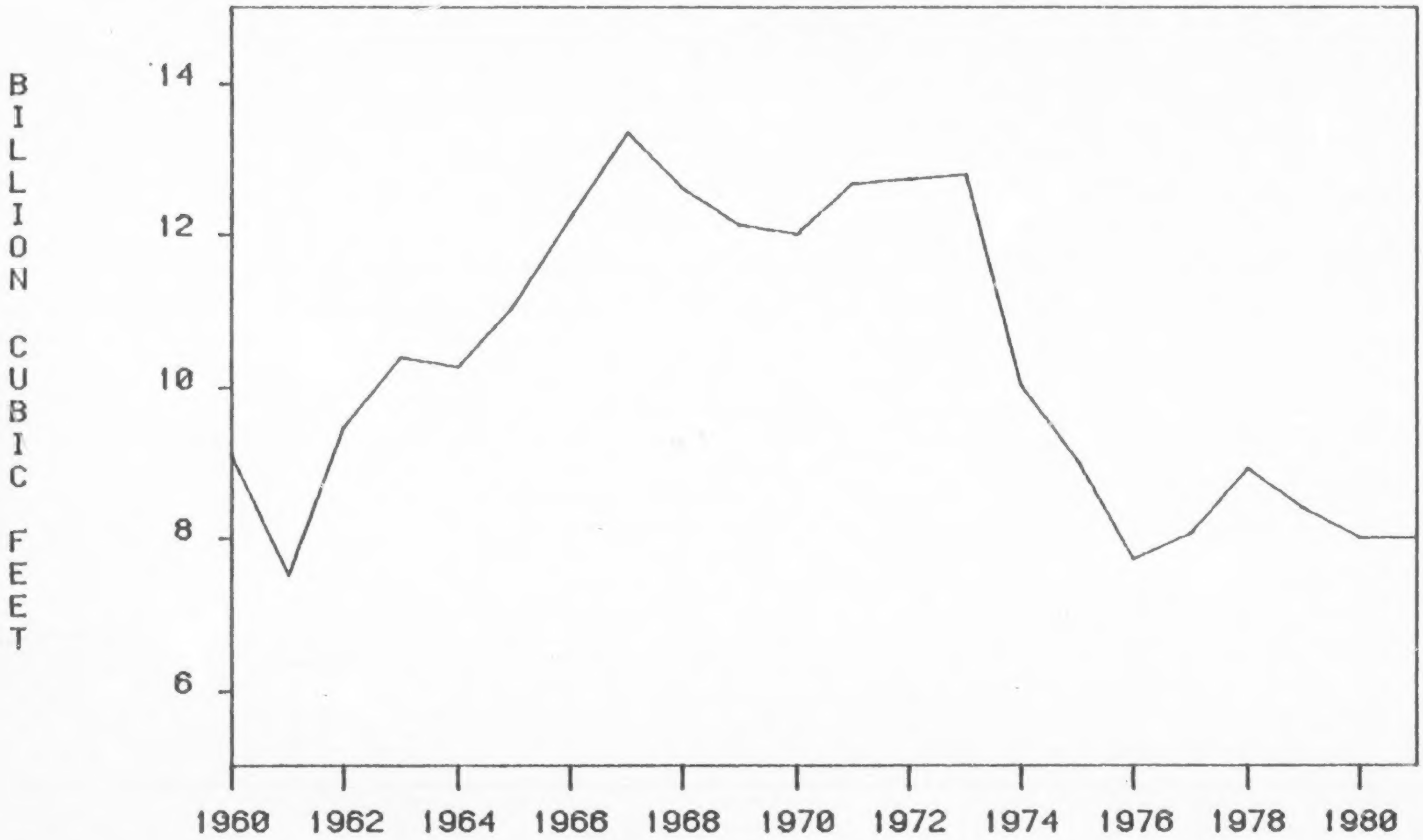
SOURCE: OHIO DEPARTMENT OF ENERGY.

FIGURE 18. OHIO INDUSTRIAL NATURAL GAS CONSUMPTION, 1960-1981



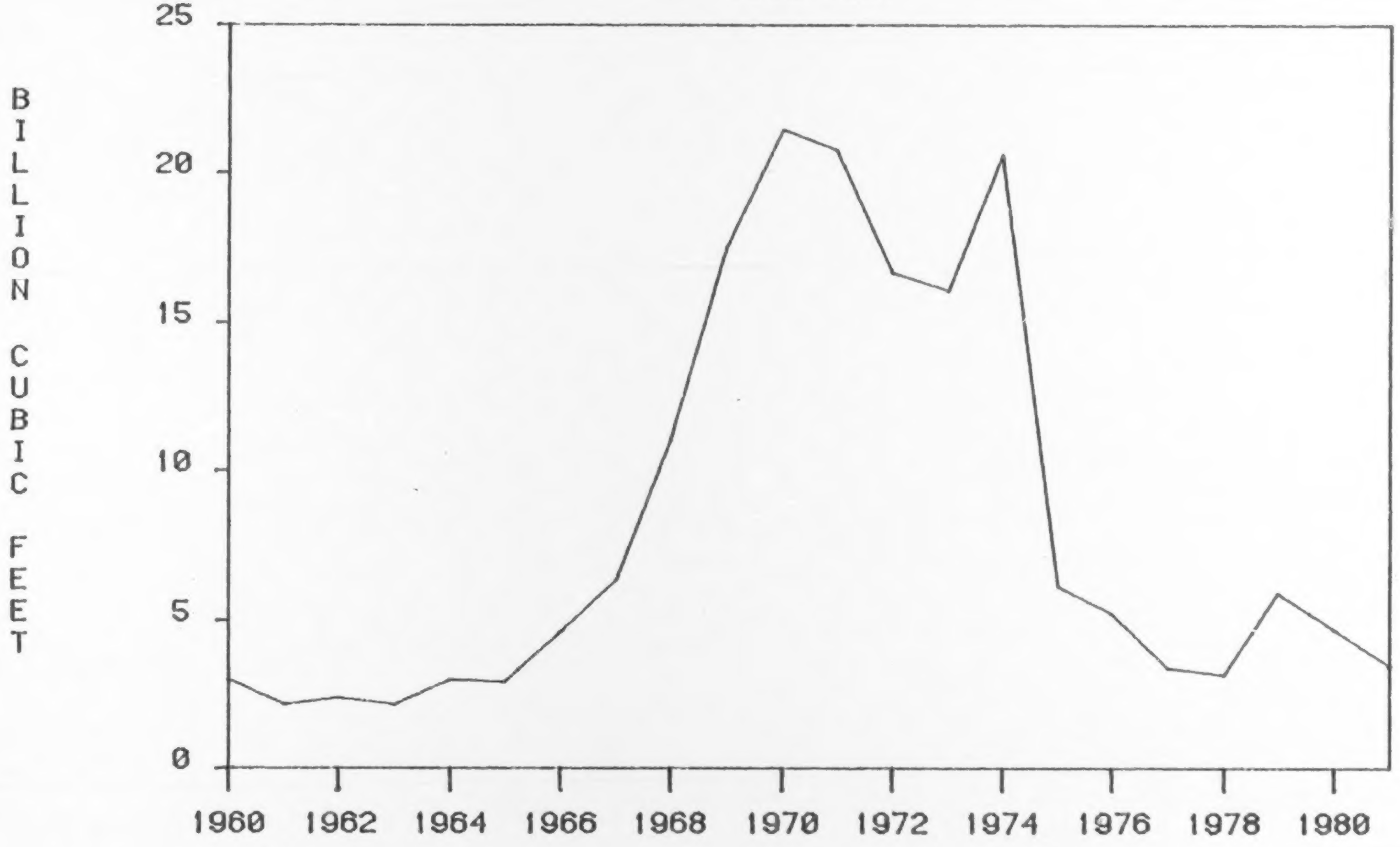
SOURCE: OHIO DEPARTMENT OF ENERGY.

FIGURE 19. OHIO TRANSPORTATION NATURAL GAS CONSUMPTION, 1960-1981



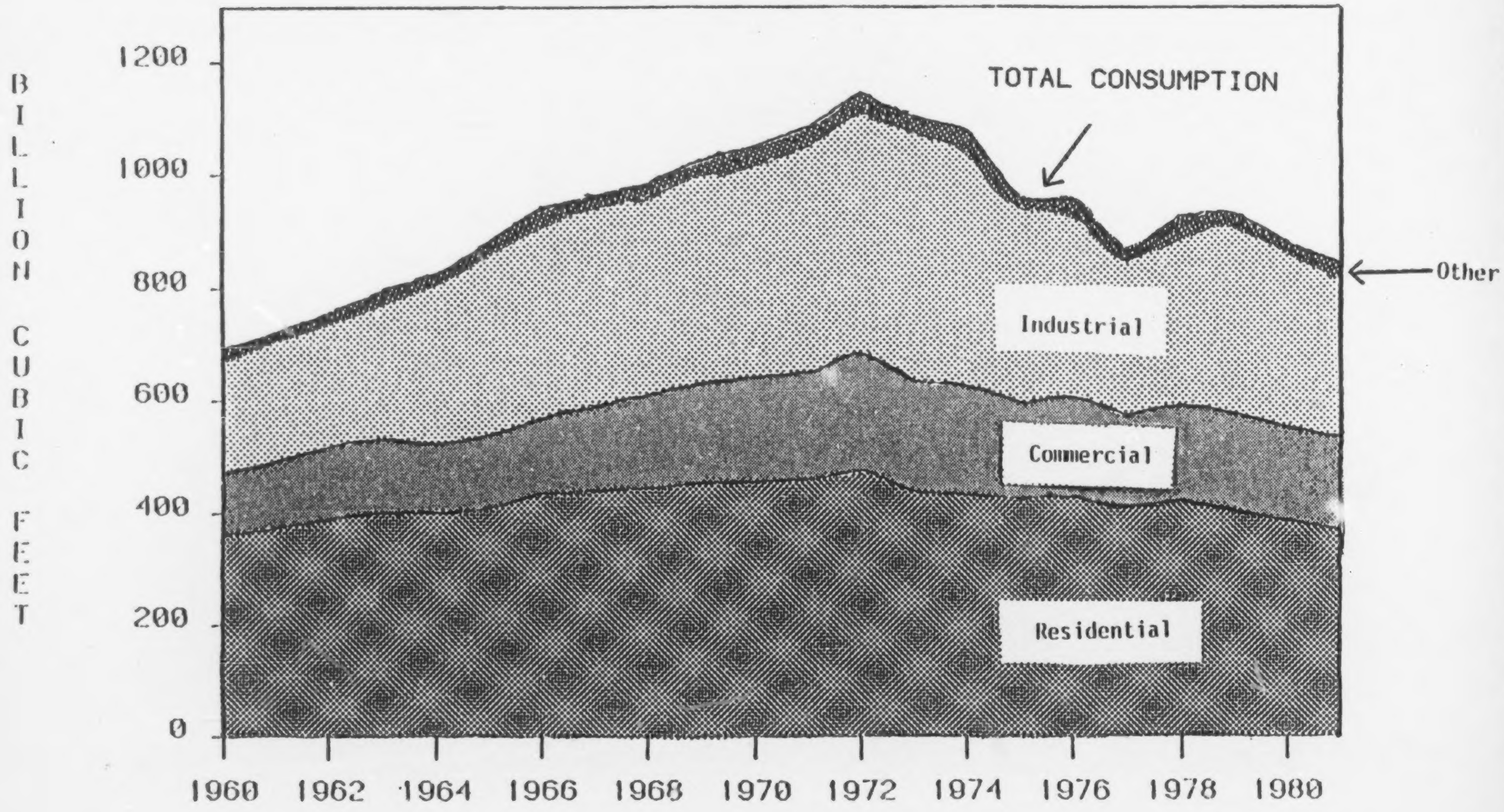
SOURCE: OHIO DEPARTMENT OF ENERGY.

FIGURE 20. OHIO ELECTRIC UTILITY NATURAL GAS CONSUMPTION
1960-1981



SOURCE: OHIO DEPARTMENT OF ENERGY.

FIGURE 21. OHIO NATURAL GAS CONSUMPTION BY SECTOR 1960-1981



NOTE: "OTHER" INCLUDES TRANSPORTATION AND ELECTRIC UTILITY CONSUMPTION.

SOURCE: OHIO DEPARTMENT OF ENERGY

FIG. 22. PROJECTED SUPPLY AND REQUIREMENTS OF NATURAL GAS, EIGHT MAJOR COMPANIES, (SEPTEMBER 1982 - AUGUST 1983)

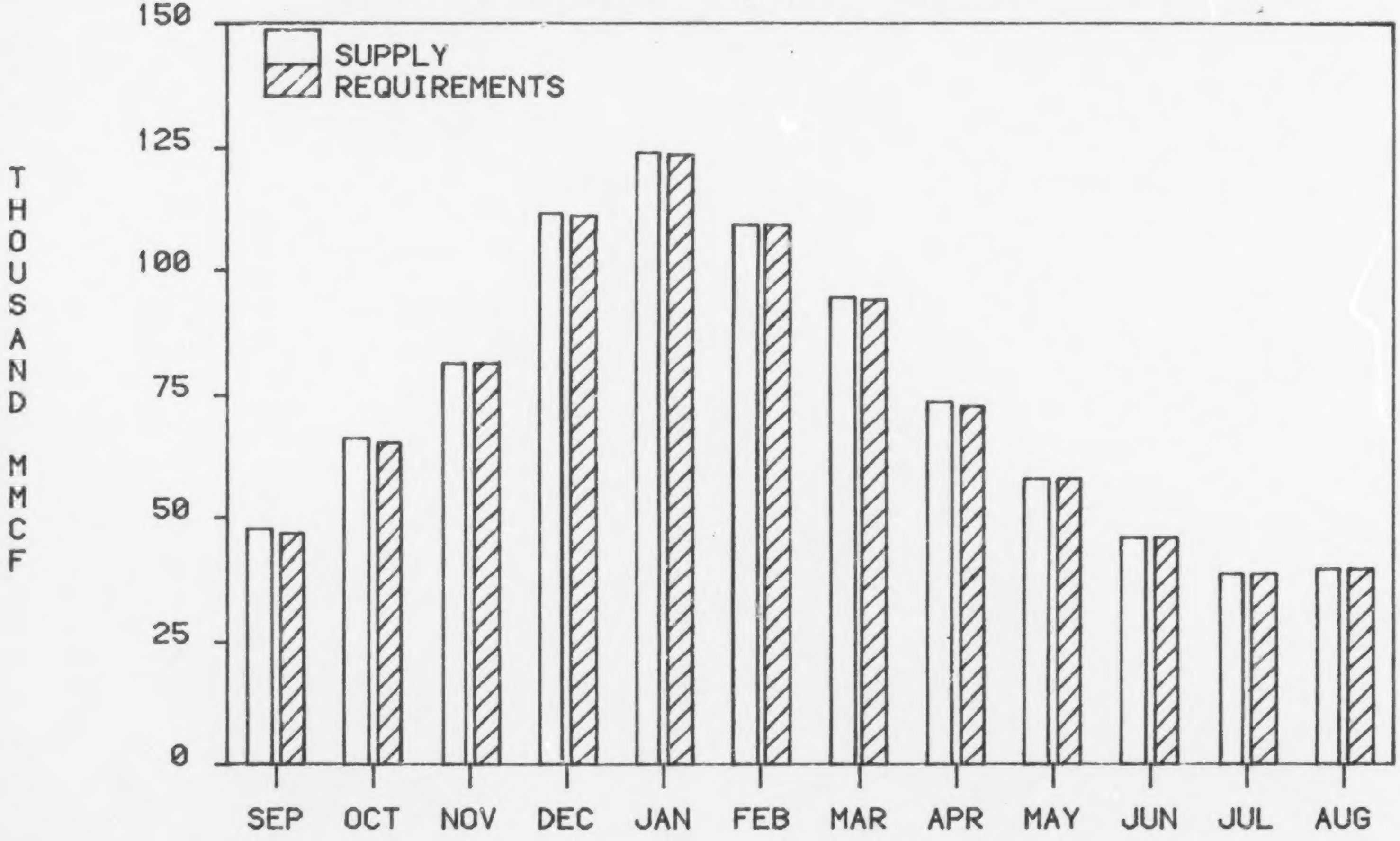
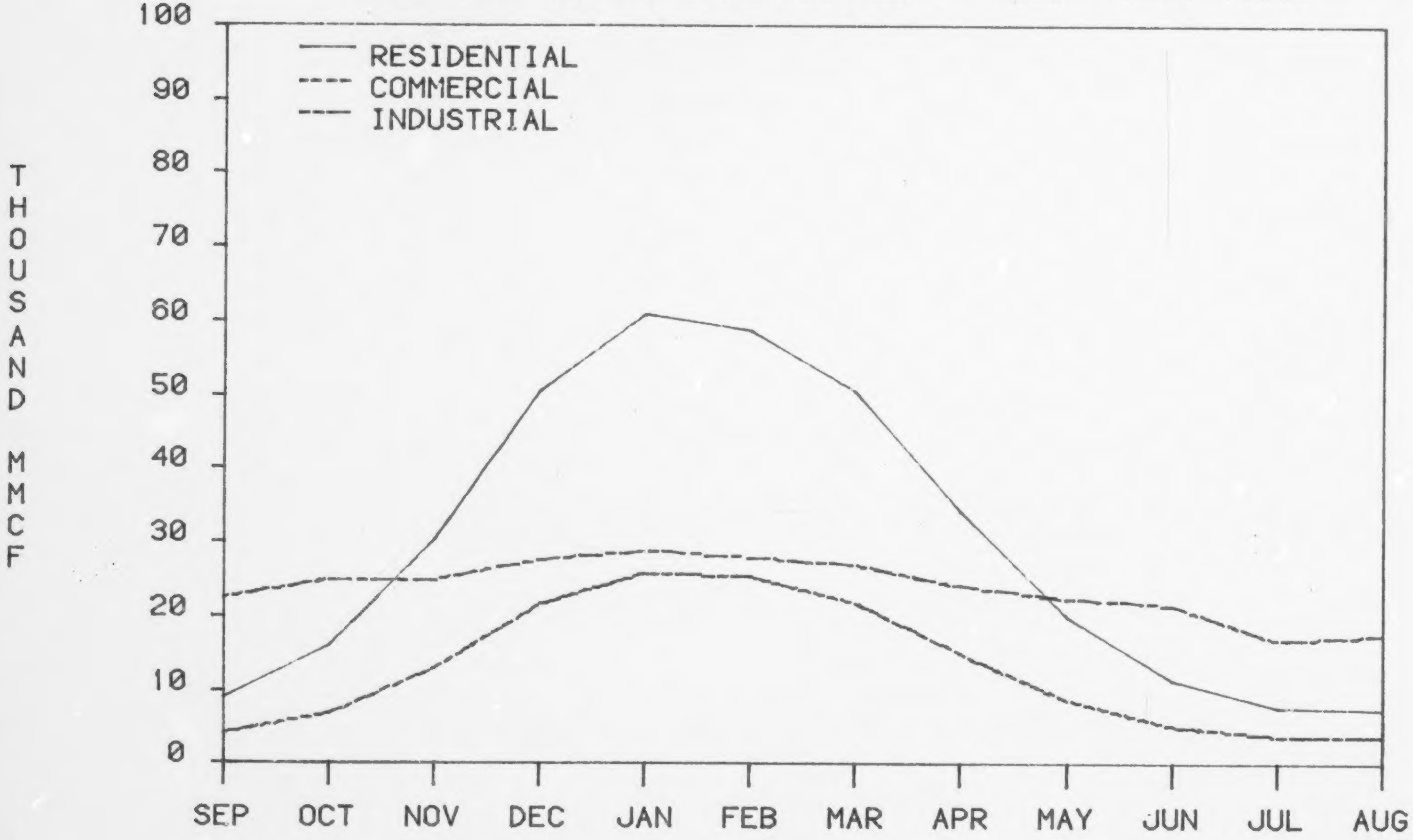


FIG. 23. PROJECTED GAS REQUIREMENTS FOR OHIO BY SECTOR FOR EIGHT MAJOR COMPANIES (SEPT. 1982 - AUG. 1983)



SOURCE: MONTHLY PROJECTIONS OF EIGHT MAJOR GAS UTILITIES AND THE OHIO DEPARTMENT OF ENERGY.

APPENDICES

Appendix A: Electricity
Appendix B: Gas

Appendix A: Electricity

Table A-1. Allegheny Power System:
Forecast of Electric Energy Demand
(1000 MWH)

	Actual Demand (1981-1982)	Utility Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)
November	2,583	2,593	0.4	2,365	- 8.4
December	2,968	2,880	-3.0	2,674	- 9.9
January	3,223	3,234	0.3	2,914	- 9.6
February	2,761	2,806	1.6	2,499	- 9.5
March	2,848	2,808	-1.4	2,579	- 9.4
April	2,508	2,496	0.5	2,228	-11.2
May	2,400	2,534	5.6	2,164	- 9.8
June	2,318	2,509	8.2	2,129	- 8.2
July	2,413	2,597	7.6	2,246	- 6.9
August	2,390	2,687	12.4	2,236	- 6.4
September	2,257	2,505	11.0	2,101	- 6.9
October	2,360	2,649	12.2	2,220	- 5.9

Note: Source of demand is Form EIA-119M.

Table A-2. American Electric Power: Forecast of Electric Energy Demand (1000 MWH)

	Actual Demand (1981-1982)	Utility Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)
November	6,746	6,690	- 0.8	5,777	-14.4
December	7,484	7,474	- 0.1	6,562	-12.3
January	8,105	8,313	2.6	7,069	-12.8
February	6,915	7,571	9.5	6,125	-11.4
March	7,038	7,219	2.6	6,295	-10.6
April	6,250	6,380	2.1	5,407	-13.5
May	5,988	6,216	3.8	5,242	-12.5
June	5,861	6,261	6.8	5,367	- 8.4
July	6,508	6,727	3.4	5,924	- 9.0
August	6,346	6,918	9.0	5,764	- 9.2
September	5,843	6,479	10.9	5,366	- 8.2
October		6,739		5,332	

Note: Source of demand is Form EIA-119M.

Table A-3. Cincinnati Gas and Electric: Forecast of Electric Energy Demand (1000 MWH)

	Actual Demand (1981-1982)	Utility Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)
November	1,209	1,242	2.7	1,192	-1.4
December	1,392	1,384	-0.6	1,333	-4.2
January	1,523	1,412	-7.3	1,412	-7.3
February	1,294	1,287	-0.5	1,257	-2.9
March	1,296	1,305	0.7	1,254	-3.2
April	1,147	1,131	-1.4	1,097	-4.4
May	1,214	1,249	2.9	1,159	-4.5
June	1,194	1,389	16.3	1,227	2.8
July	1,506	1,498	-0.5	1,461	-3.0
August	1,350	1,523	12.8	1,379	2.1
September	1,183	1,283	8.5	1,195	1.0
October		1,210		1,127	

Note: Source of demand is Form EIA-119M.

Table A-4. Cleveland Electric Illuminating: Forecast of Electric Energy Demand (1000 MWH)

	Actual Demand (1981-1982)	Utility Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)
November	1,450	1,480	2.1	1,393	-3.9
December	1,496	1,635	9.3	1,481	-1.0
January	1,633	1,715	5.0	1,595	-2.3
February	1,468	1,533	4.4	1,438	-2.0
March	1,532	1,633	6.6	1,490	-2.7
April	1,419	1,451	2.3	1,350	-4.9
May	1,213	1,521	25.4	1,294	6.7
June	1,450	1,571	8.3	1,439	-0.8
July	1,556	1,634	5.0	1,531	-1.6
August	1,461	1,671	14.4	1,491	2.1
September	1,386	1,501	8.3	1,398	0.9
October	1,379	1,549	12.3	1,453	5.4

Note: Source of demand is Form EIA-119M.

Table A-5. Dayton Power and Light: Forecast of Electric Energy Demand (1000 MWH)

	Actual Demand (1981-1982)	Utility Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)
November	889	923	3.8	867	-2.5
December	993	1,037	4.4	967	-2.6
January	1,133	1,108	2.2	1,091	-3.7
February	963	995	3.3	932	-3.2
March	957	977	2.1	928	-3.0
April	831	855	2.9	804	-3.2
May	813	853	4.9	788	-3.0
June	812	887	9.2	814	0.2
July	953	975	2.3	938	-1.6
August	880	980	11.4	898	2.0
September	796	876	10.1	796	0.0
October		918		855	

Note: Source of demand is Form EIA-119M.

Table A-6. Ohio Edison Company: Forecast of Electric Energy Demand (1000 MWH)

	Actual Demand (1981-1982)	Utility Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)
November	1,932	2,090	8.2	1,786	-7.6
December	2,074	2,341	12.9	1,945	-6.2
January	2,247	2,468	9.8	2,096	-6.7
February	1,981	2,196	10.9	1,857	-6.3
March	2,070	2,272	9.8	1,935	-6.5
April	1,823	2,087	14.5	1,706	-6.4
May	1,787	2,114	18.3	1,682	-5.9
June	1,767	2,111	19.5	1,713	-3.1
July	1,959	2,196	12.1	1,870	-4.5
August	1,852	2,268	22.5	1,838	-0.8
September	1,726	2,092	21.2	1,691	-2.0
October	1,775	2,199	23.9	1,806	1.7

Note: Source of demand is Form EIA-119M.

Table A-7. Ohio Valley Electric Corporation: Forecast of Electric Net Generation (1000 MWH)

	Net Actual Generation (1981-1982)	Utility Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)
November	1,376	1,445	5.0
December	1,420	1,433	0.9
January	1,485	1,441	-3.0
February	1,381	1,261	-8.7
March	1,493	1,363	-8.7
April	1,246	1,348	8.2
May	1,240	1,352	9.0
June	1,270	1,361	7.2
July	1,358	1,451	6.8
August	1,336	1,368	2.4
September	1,233	1,383	12.7
October	1,297	1,351	4.2

Note: Source of demand is Form EIA - 119M.

Table A-8. Toledo Edison Company: Forecast of Electric Energy Demand (1000 MWH)

	Actual Demand (1981-1982)	Utility Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)
November	605	617	2.0	588	-2.8
December	656	645	-1.7	631	-3.8
January	735	731	-0.5	696	-5.3
February	638	700	9.7	615	-3.6
March	670	708	5.7	635	-5.2
April	590	631	6.9	553	-6.3
May	590	613	3.9	557	-5.6
June	574	637	11.0	560	-2.4
July	635	645	1.6	608	-4.3
August	601	672	11.8	602	0.2
September	565	633	12.0	550	-2.7
October	570	632	10.9	580	1.8

Note: Source of demand is Form EIA-119M.

Table A-9. Forecast of Ohio Electricity Demand - Residential Sector (1000 MWH)

	Lower 95% Confidence Limit	ODOE Forecast (1982-1983)	Upper 95% Confidence Limit	Actual (1981-1982)	Forecast Percentage Change
November	1,668	1,995	2,322	2,113	- 5.6
December	2,196	2,551	2,906	2,702	- 5.6
January	2,793	3,161	3,530	3,376	- 6.4
February	2,532	2,913	3,294	3,106	- 6.2
March	2,108	2,501	2,895	2,713	- 7.8
April	1,742	2,147	2,553	2,393	-10.3
May	1,375	1,792	2,210	1,953	- 8.2
June	1,376	1,804	2,234	1,965	- 8.2
July	1,770	2,210	2,650	2,346	- 5.8
August	1,828	2,279	2,730	2,441	- 6.6
September	1,537	1,999	2,460	2,052	- 2.6
October	1,178	1,687	2,196		

Note: The forecast is based upon monthly summary statistics of the Ohio Electric Utilities Institute for eight major investor-owned electric utilities (excluding OVEC).

Table A-10. Forecast of Ohio Electricity Demand - Commercial Sector
(1000 MWH)

	Lower 95% Confidence Limit	ODOE Forecast (1982-1983)	Upper 95% Confidence Limit	Actual (1981-1982)	Forecast Percentage Change
November	1,452	1,584	1,716	1,581	0.2
December	1,598	1,742	1,886	1,733	0.5
January	1,775	1,924	2,074	1,955	-1.6
February	1,724	1,879	2,034	1,873	0.3
March	1,587	1,746	1,906	1,781	-2.0
April	1,486	1,650	1,815	1,667	-1.0
May	1,429	1,598	1,767	1,633	-2.1
June	1,567	1,741	1,915	1,771	-1.7
July	1,727	1,905	2,083	1,926	-1.1
August	1,730	1,913	2,095	1,946	-1.7
September	1,632	1,819	2,006	1,806	0.7
October	1,391	1,592	1,793		

Note: The forecast is based upon monthly summary statistics of the Ohio Electric Utilities Institute for eight major investor-owned electric utilities (excluding OVEC).

Table A-11. Forecast of Ohio Electricity Demand - Industrial Sector
(1000 MWH)

	Lower 95% Confidence Limit	ODOE Forecast (1982-1983)	Upper 95% Confidence Limit	Actual (1981-1982)	Forecast Percentage Change
November	2,703	3,036	3,370	3,618	-16.1
December	2,480	2,888	3,296	3,236	-10.8
January	2,434	2,906	3,377	3,198	- 9.1
February	2,414	2,941	3,468	3,286	-10.5
March	2,486	3,064	3,641	3,429	-10.6
April	2,314	2,938	3,561	3,229	- 9.0
May	2,268	2,935	3,601	3,218	- 8.8
June	2,240	2,948	3,655	3,295	-10.5
July	2,044	2,789	3,534	3,076	- 9.3
August	2,133	2,915	3,697	3,196	- 8.8
September	2,047	2,863	3,680	3,108	- 7.9
October	2,054	2,927	3,800		

Note: The forecast is based upon monthly summary statistics of the Ohio Electric Utilities Institute for eight major investor-owned electric utilities (excluding OVEC).

Table A-12. Forecast of Electric Energy Demand - All Sectors
(1000 MWH)

	Lower 95% Confidence Limit	ODOE Forecast (1982-1983)	Upper 95% Confidence Limit	Actual (1981-1982)	Forecast Percentage Change
November	6,367	6,978	7,589	7,759	-10.1
December	6,793	7,503	8,213	8,167	- 8.1
January	7,508	8,305	9,101	9,036	- 8.1
February	7,216	8,090	8,965	8,760	- 7.6
March	6,779	7,725	8,671	8,414	- 8.2
April	6,039	7,052	8,065	7,727	- 8.7
May	5,641	6,717	7,792	7,212	- 6.9
June	5,744	6,878	8,013	7,454	- 7.7
July	6,099	7,290	8,480	7,746	- 5.9
August	6,249	7,494	8,738	7,980	- 6.1
September	5,819	7,115	8,410	7,361	- 3.3
October	5,262	6,665	8,067		

Note: The forecast is based upon monthly summary statistics of the Ohio Electric Utilities Institute for eight major investor-owned electric utilities (excluding OVEC).

Appendix B: Natural Gas

Historical Behavior of Sectoral Gas Requirements

Although no new customer hookups were allowed from 1972 until the passage of the Natural Gas Policy Act in 1978, the number of residential customers in Ohio remained relatively constant during this period. Since 1978, the number of Ohio residential natural gas customers has been increasing annually. However, the weather sensitivity of residential consumption, measured in terms of the change in the monthly volume of residential requirements as measured in MMCF per degree day per month, has generally been declining since the mid-seventies in the service areas of the four major Ohio natural gas utilities (see Table 11). Hence, residential sector demand has been declining. This fact is a reflection of the effectiveness of residential conservation measures implemented in Ohio.

As a result of a reduction in interstate gas supplies during the mid-seventies, base allocations of lower priority industrial and commercial customers were curtailed between 1973-1977, which led to conservation in the commercial and industrial sectors, and to some fuel switching in the industrial sector. A reduced level of statewide economic activity has also contributed to declining trends of demand in these two sectors.

There is no doubt that the major incentive for conservation in all sectors of the economy are the steep increases in energy costs. Between 1972 and 1981, imported oil costs have risen eight-fold, and natural gas prices have risen four-fold (see Tables 12 and 13). These increases have been far ahead of any increases in real per-capita income.

Historical Monthly Sectoral Requirements

The regularities in the monthly time series behavior of residential, commercial, industrial, and total natural gas requirements in Ohio from January 1970 through August 1982, are displayed in Figures 11, 12, 13, and 14. The seasonal variation in residential and commercial requirements can easily be discerned from these illustrations. Natural gas usage in all sectors peaks during the heating season, and falls off during the cooling season. The contrast between the natural gas consumption levels during the heating and non-heating seasons has increased over the past two years. The dramatic effect of curtailment enforced on the industrial sector during the 1976-77 heating season is shown in Figure 13.

Historical Annual Sectoral Requirements

Figures 15-20 present the annual sectoral ntural gas consumption patterns observed in Ohio from 1960 to 1981. Figure 21 illustrates the respective shares of residential, commercial, industrial, and the combined electric utility and transportation sector (other sector) in the Ohio total. The historical trend of consumption shows a gradual increase from 1960 to 1972, followed by a gradual decrease from 1972 to date. The downward trend can be explained by numerous factors, including:

1. A ban on new customer hookups from 1972 to 1978 in response to the dwindling supply.
2. Curtailments in industrial requirements from 1973 to 1977.
3. Conservation induced by public and private programs and by the rising cost of natural gas.
4. A weak statewide economic condition, especially during the recession of 1980-82.

Quantitative Analyses of Historical Natural Gas Requirements in Ohio

As indicated in Figures 15 through 21, the behavior of annual natural gas disposition, in all sectors of Ohio, has displayed distinctly different trends during the sixties and early seventies, as opposed to the rest of the seventies and the early eighties. Such discontinuous time variant trends characterize the behavior of almost all sectoral energy disposition in Ohio as well as the nation.

The Ohio Department of Energy has developed an analytical methodology for the modeling and assessment of discontinuous time variant trends in annual economic data series, in general, and in annual energy data series, in particular. As a result of this development, the Department is in a better position to distinguish between temporary deviations from established trends, such as those due to recessions or severe climatic conditions, and changes in established long-term trends. Continued application of this methodology will lead to improved understanding of the systemic factors which are responsible for the observed discontinuities in the historical time paths of the corresponding data series. Extraction of such critical information from historical observation will invariably lead to more accurate forecasts of Ohio's future energy requirements by sector or by fuel type, and help identify possible shortages before they develop into critical proportions.

A simultaneous time path model of historical natural gas end-user requirements in Ohio is presented in Tables 14 and 14A, with sectoral end-user requirement forecasts for calendar year 1983 included in Table 15.

The estimated parameters of the model describe the dynamic behavior of the magnitudes of systemic trends in Ohio sectoral natural gas requirements between 1960-1981, as well as the magnitudes of significant temporary deviations from such established trends. Such temporary deviations are interpreted to reflect the magnitude of systemic responses to temporary alterations in the historically determined "normal" operating conditions of the sectoral system in question. They may also reflect possible alterations in the methods of measurement and in the accounting procedures involved in data collection and reporting practices, which may not be known at this time. ODOE makes every effort to keep the data definitions employed consistent over the domain of time under consideration.

As far as long-term trends are concerned, it is clear that the annual rates of change of natural gas requirements were positive for all sectors between 1960 and 1970. They became negative for all sectors between 1970 and 1972, and have remained so to date. It is also clear that the recession of 1975 has resulted in a permanent decrease in the level of annual industrial natural gas requirements.

Any upturn in sectoral natural gas consumption rates will probably require significant increases in real state income relative to the real expenditures on natural gas by the respective sectoral end-users. Although it is clear that negative rates of growth cannot be sustained indefinitely, and it is also clear that the current levels of annual natural gas requirements in all sectors are close to those of twenty years ago, it can nevertheless be inferred that a sustained upturn in sectoral natural gas requirements in Ohio is not to be expected as long as:

1. The relative share of expenditures on energy resources continues to increase statewide.
2. The comparative advantage of the state's industrial base continues to deteriorate, thus attracting fewer firms to locate in Ohio.
3. The price per Btu of natural gas, relative to that of heating oil or electricity, continues to increase.

Table B-1. Cincinnati Gas and Electric Forecast of Natural Gas Requirements (MMCF)

	Actual Demand (1981-1982)	Utility Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1982-1983)	Forecast % Change (ODOE Forecast vs. Actual)
October	5,881	5,644	-4.03	6,184	5.15
November	8,490	7,364	-13.26	8,279	-2.49
December	12,990	10,705	-17.59	12,387	-4.64
January	15,600	12,576	-19.38	14,401	-7.69
February	12,364	11,418	-7.65	13,157	6.41
March	9,683	9,366	-3.27	11,111	14.75
April	7,009	6,047	-13.73	7,888	12.54
May	3,236	3,760	16.19	4,200	29.79
June	3,109	2,939	-5.47	3,654	17.53
July	3,188	2,746	-13.86	3,431	7.62
August	3,382	2,738	-19.04	3,718	9.93
September	*	3,055		3,835	

*Actual figures were not available.

Source: SG-2. Forms of the reporting utility and the Ohio Department of Energy.

Table B-2. Columbia Gas of Ohio:
Forecast of Natural Gas Requirements
(MMCF)

	Actual Demand (1981-1982)	Utility Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1982-1983)	Forecast % Change (ODOE Forecast vs. Actual)
October	22,794	23,821	4.51	22,866	0.32
November	30,307	29,027	-4.22	30,161	-0.48
December	42,334	40,610	-4.07	41,500	-1.97
January	54,252	46,490	-14.31	51,080	-5.85
February	42,516	38,223	-10.10	44,892	5.59
March	35,887	31,814	-11.35	36,480	1.65
April	26,575	21,497	-19.11	26,979	1.52
May	13,478	14,868	10.31	15,816	17.35
June	12,312	11,002	-10.64	11,382	-7.55
July	10,847	9,338	-13.91	10,932	0.78
August	10,361	10,588	2.19	12,433	20.00
September	*	11,528		13,818	

*Actual figures were not available.

Source: SG-2. Forms of the reporting utility and the Ohio Department of Energy.

Table B-3. Dayton Power and Light Forecast of Natural Gas Requirements (MMCF)

	Actual Demand (1981-1982)	Utility Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1982-1983)	Forecast % Change (ODOE Forecast vs. Actual)
October	3,046	3,463	13.69	3,418	12.21
November	4,818	5,427	12.64	5,285	9.69
December	7,937	7,451	-6.12	8,020	1.05
January	10,311	8,728	-15.35	10,424	1.10
February	10,048	8,992	-10.51	10,004	-0.44
March	6,568	6,850	4.29	7,219	9.91
April	5,742	5,208	-9.30	5,550	-3.34
May	2,550	2,932	14.98	3,000	17.65
June	1,848	2,065	11.74	2,042	10.50
July	1,667	1,630	-2.22	1,774	6.42
August	1,696	1,819	7.25	1,869	10.20
September	*	2,153		2,166	

*Actual figures were not available.

Source: SG-2. Forms of the reporting utility and the Ohio Department of Energy.

Table B-4. East Ohio Gas:
Forecast of Natural Gas Requirements
(MMCF)

	Actual Demand (1981-1982)	Utility Forecast (1982-1983)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1982-1983)	Forecast % Change (ODOE Forecast vs. Actual)
October	30,241	29,705	-1.77	28,549	-5.60
November	30,892	31,030	0.45	32,463	5.09
December	42,827	41,895	-2.18	44,219	3.25
January	56,187	47,299	-15.82	54,595	-2.83
February	43,901	42,429	-3.35	46,891	6.81
March	38,403	37,347	-2.75	38,547	0.37
April	34,635	32,212	-7.00	33,173	-4.22
May	22,174	27,791	25.33	23,143	4.37
June	20,987	22,243	5.98	18,662	-11.08
July	19,281	20,075	4.12	16,664	-13.57
August	19,769	21,307	7.78	18,195	-7.96
September	*	23,075		20,293	

*Actual figures were not available.

Source: SG-2. Forms of the reporting utility and the Ohio Department of Energy.

Table B-5. Independent Forecast of Ohio Natural Gas
End User Requirements-Residential Sector
(MMCF)

Month	Lower 95% Confidence Limit	Forecast (1982-1983)	Upper 95% Confidence Limit	Actual (1981-1982)	Forecast Percentage Change
October	11,330	15,330	19,330	18,605	-17.60
November	26,000	31,000	36,000	28,567	8.52
December	44,000	50,000	56,000	49,705	0.59
January	58,000	68,000	78,000	69,255	-1.81
February	54,500	64,500	74,500	67,151	-3.95
March	41,845	51,845	61,845	51,411	0.84
April	29,000	37,000	45,000	39,529	-6.40
May	14,471	18,471	22,471	16,622	11.12
June	6,174	7,174	8,174	9,695	-26.00
July	3,434	4,434	5,434	8,247	-46.23
August	3,099	4,099	5,099	7,554	-45.74
September	3,637	5,437	7,237	*	

*Actual figures were not available.

Table B-6. Independent Forecast of Ohio Natural Gas End User Requirements-Commercial Sector (MMCF)

Month	Lower 95% Confidence Limit	Forecast (1982-1983)	Upper 95% Confidence Limit	Actual (1981-1982)	Forecast Percentage Change
October	6,400	7,400	8,400	7,818	-5.35
November	12,150	12,450	12,750	12,342	0.88
December	18,000	21,000	24,000	21,544	-2.53
January	25,811	28,811	31,811	29,551	-2.50
February	25,281	28,281	31,281	29,093	-2.79
March	19,482	22,482	25,482	22,342	0.63
April	13,663	16,663	19,663	16,575	0.53
May	5,400	8,400	11,400	6,910	21.56
June	4,500	4,600	4,700	4,225	8.88
July	3,200	4,000	4,800	3,869	3.39
August	3,000	3,800	4,600	3,615	5.12
September	3,600	4,400	5,200	*	

*Actual figures were not available.

Table B-7. Independent Forecast of Ohio Natural Gas End User Requirements-Industrial Sector (MMCF)

Month	Lower 95% Confidence Limit	Forecast (1982-1983)	Upper 95% Confidence Limit	Actual (1981-1982)	Forecast Percentage Change
October	18,000	22,000	26,000	22,316	-1.42
November	18,200	22,200	26,200	23,029	-3.60
December	22,000	26,000	30,000	25,308	2.73
January	24,500	28,500	32,500	29,039	-1.86
February	23,600	27,600	31,600	28,676	-3.75
March	22,900	26,900	30,900	25,915	3.80
April	19,800	23,800	27,800	22,051	7.93
May	17,500	21,500	25,500	17,575	22.33
June	15,000	20,000	25,000	16,664	20.02
July	14,500	19,500	24,500	14,382	35.59
August	16,000	21,000	26,000	14,904	40.90
September	17,500	21,500	25,500	*	

*September figure not available.

Table B-8. Independent Forecast of Ohio Natural Gas Requirements-Total-All-Sectors (MMCF)

Month	Lower 95% Confidence Limit	Forecast (1982-1983)	Upper 95% Confidence Limit	Actual (1981-1982)	Forecast Percentage Change
October	58,171	64,171	70,171	65,008	-1.29
November	74,150	80,150	86,150	78,208	2.48
December	102,500	110,500	118,500	110,901	-0.36
January	117,705	129,705	141,705	142,486	-8.97
February	106,381	118,381	130,381	113,794	4.03
March	89,227	101,227	113,227	95,023	6.53
April	64,463	74,463	84,463	77,302	-3.67
May	42,280	48,280	54,280	43,416	11.20
June	31,280	37,280	43,280	40,210	-7.29
July	28,383	34,383	40,383	36,677	-6.25
August	33,167	38,167	43,167	36,941	3.32
September	36,348	42,348	48,348	*	

*September figure not available.

Table B-9. Projected Supply and Demand for Eight Major Ohio Natural Gas Utilities
(MMCF)

COMPANY: CINN. GAS & ELEC.

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	9/82	10/82	11/82	12/82	1/83	2/83	3/83	4/83	5/83	6/83	7/83	8/83	SUMMER	WINTER	YEAR
SUPPLY	4091	5644	8855	13072	12620	12199	10903	6936	5308	4116	4020	4014	34129	57649	91778
DEMAND	4091	5644	8855	13072	12620	12199	10903	6936	5308	4116	4020	4014	34129	57649	91778
DEFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% DEFICIENCY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

COMPANY: COLUMBIA GAS

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	9/82	10/82	11/82	12/82	1/83	2/83	3/83	4/83	5/83	6/83	7/83	8/83	SUMMER	WINTER	YEAR
SUPPLY	15712	23821	31138	43053	49642	41342	34913	24803	18207	14347	9338	10588	116816	200088	316904
DEMAND	15712	23821	31138	43053	49642	41342	34913	24803	18207	14347	9338	10588	116816	200088	316904
DEFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% DEFICIENCY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

COMPANY: DAYTON POWER & LIGHT

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	9/82	10/82	11/82	12/82	1/83	2/83	3/83	4/83	5/83	6/83	7/83	8/83	SUMMER	WINTER	YEAR
SUPPLY	1995	3463	5427	7451	8770	9079	7248	5479	3269	2246	1825	1819	20096	37975	58071
DEMAND	1995	3463	5427	7451	8770	9079	7248	5479	3269	2246	1825	1819	20096	37975	58071
DEFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% DEFICIENCY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

COMPANY: EAST OHIO GAS

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	9/82	10/82	11/82	12/82	1/83	2/83	3/83	4/83	5/83	6/83	7/83	8/83	SUMMER	WINTER	YEAR
SUPPLY	23250	29705	32125	43054	47279	41439	37103	33013	28480	23187	21484	21199	180318	201000	381318
DEMAND	23250	29705	32125	43054	47279	41439	37103	33013	28480	23187	21484	21199	180318	201000	381318
DEFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% DEFICIENCY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-9. Projected Supply and Demand for Eight Major Ohio Natural Gas Utilities (Cont'd) (MMCF)

COMPANY: NATIONAL GAS

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	9/82	10/82	11/82	12/82	1/83	2/83	3/83	4/83	5/83	6/83	7/83	8/83	SUMMER	WINTER	YEAR
SUPPLY	1160	1160	1220	1430	1510	1410	1475	1300	1160	1090	1135	1135	8140	7045	15185
DEMAND	829	829	950	1035	1175	1280	1100	976	1035	1003	984	975	6631	5540	12171
DEFICIENCY	-331	-331	-270	-395	-335	-130	-375	-324	-125	-87	-151	-160	-1509	-1505	-3014
% DEFICIENCY	-39.9%	-39.9%	-28.4%	-38.2%	-28.5%	-10.2%	-34.1%	-33.2%	-12.1%	-8.7%	-15.3%	-16.4%	-22.8%	-27.2%	-24.8%

COMPANY: OHIO GAS

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	9/82	10/82	11/82	12/82	1/83	2/83	3/83	4/83	5/83	6/83	7/83	8/83	SUMMER	WINTER	YEAR
SUPPLY	939	1256	744	1013	1084	1064	853	652	569	353	413	427	4609	4758	9367
DEMAND	283	497	744	1013	1084	1065	853	0	569	351	413	427	2540	4759	7299
DEFICIENCY	-656	-759	0	0	0	1	0	-652	0	-2	0	0	-2069	1	-2068
% DEFICIENCY	-231.8%	-152.7%	0.0%	0.0%	0.0%	0.1%	0.0%	999.9%	0.0%	-0.6%	0.0%	0.0%	-81.5%	0.0%	-28.3%

COMPANY: RIVER GAS

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	9/82	10/82	11/82	12/82	1/83	2/83	3/83	4/83	5/83	6/83	7/83	8/83	SUMMER	WINTER	YEAR
SUPPLY	220	315	470	629	777	719	589	398	300	204	175	178	1790	3184	4974
DEMAND	220	315	470	629	777	719	589	398	300	204	175	178	1790	3184	4974
DEFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% DEFICIENCY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

COMPANY: WEST OHIO GAS

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	9/82	10/82	11/82	12/82	1/83	2/83	3/83	4/83	5/83	6/83	7/83	8/83	SUMMER	WINTER	YEAR
SUPPLY	552	1009	1319	1666	2060	1944	1422	1097	710	493	393	427	4681	8411	13092
DEMAND	552	1009	1319	1666	2060	1944	1422	1097	710	493	393	427	4681	8411	13092
DEFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% DEFICIENCY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%